ELECTRICAL SOUTH

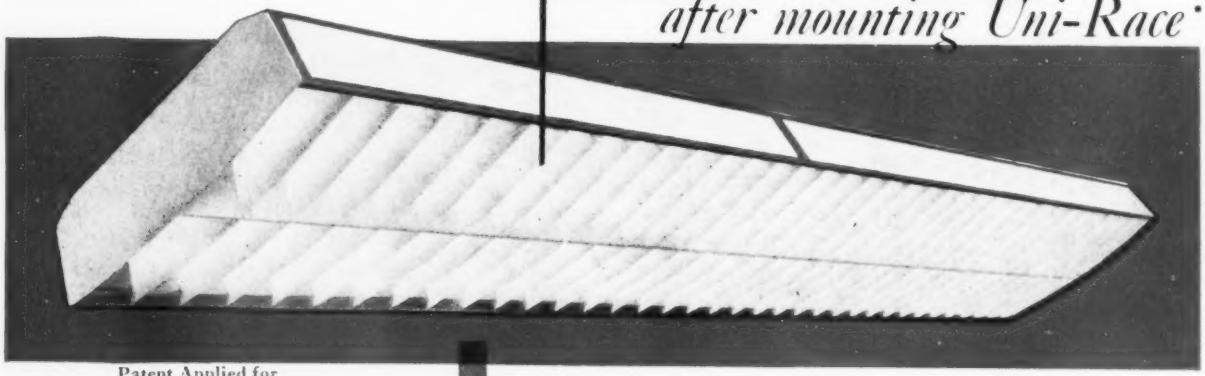
Serving the 18 Southern and Southwestern States

Lighting trends in the South—Pg. 51

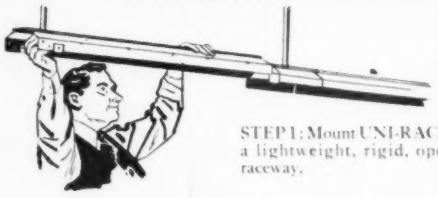
OCTOBER, 1953

YOUR HANDS

are all you need to install the new Gibson **ortho-77** Reg. U. S. Pat. Off. Applied For *after mounting Uni-Race*

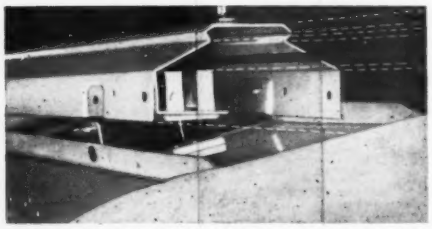


Patent Applied for



STEP 1: Mount UNI-RACE, a lightweight, rigid, open raceway.

STEP 2: Hang fixture into slots on UNI-RACE spaced for automatic positioning.



STEP 3: PLUG-IN socket makes contact with receptacle in Uni-Race when fixture is closed. Fixture is completely dead when open.

THERE IS NOTHING LIKE IT . . .

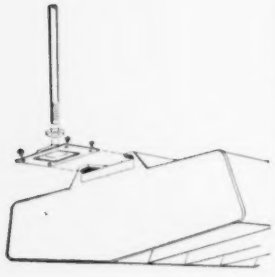
So revolutionary in design is the new Gibson ORTHO-77 it is the talk of lighting men everywhere. A special unique raceway (UNI-RACE) provides POSITIVE ALIGNMENT, AUTOMATIC SPACING, FIXED POWER SOURCE, and a RIGID CHANNEL ANCHOR for all ORTHO-77 models. Light in weight, it is readily accessible and easily mounted. A special receptacle permits wire-in in a matter of minutes without tools. Lighting levels can be raised from two to four lite on the same UNI-RACE, or fixtures mounted on a continuous UNI-RACE at spaced intervals can quickly be made continuous later. The fixture is never defaced . . . only the UNI-RACE, a low cost easily replaceable part. The ORTHO-77 is a completely INTEGRATED UNIT built around V-TYPE GIRDER CONSTRUCTION to assure rigidity and permanence of shape. These are just a few of the many features of this phenomenal new concept of design outlined in Bulletin ORT-101. By all means write for it today.

GIBSON *Manufacturing Co.*

1919 PIEDMONT CIRCLE, N. E. • ATLANTA, GEORGIA

Wakefield introduces the CAVALIER

a beautiful new luminaire with full length luminous plastic side panels — and sliding stem plates to simplify mounting.



For the complete story of this beautiful new streamlined direct-indirect luminaire, write for an 8-page 3-color folder. The F. W. Wakefield Brass Company, Vermilion, Ohio. In Canada, Wakefield Lighting Ltd., London, Ont.

No opaque metal frames mar the beauty of the Cavalier's luminous plastic side panels. Yet the construction is sound and sturdy, for inside is a supporting steel frame which also acts as an internal reflector.

But there's more than beauty to recommend this entirely new luminaire. There's a wonderfully ingenious sliding stem plate which can be moved from end to end to support the Cavalier at any point, completely eliminating problems of in-line spacing of mounting points. Together with adjustable ceiling straps and hook-on stems, this new feature greatly simplifies the installer's job.

NOW CONSIDER A FEW OTHER GOOD POINTS:

1 A special low brightness finish on louvers, side reflectors and channels keeps brightness contrasts down.

2 Equipped for Rapid Start or Slimline lamps. Two models, the Cavalier II (two lamps) and the Cavalier IV (four lamps).

3 Louvers are released by press buttons and suspend on chains.

4 Snap-on end plates with each body—no extra set of end plates to be ordered.

5 Can be ceiling-mounted without extra fittings.

6 8-foot channels for minimum suspension points.

Wakefield **Over-ALL Lighting**

WAKEFIELD GEOMETRICS

THE CAVALIER

THE GRENADIER

THE PACEMAKER

THE COMMODORE

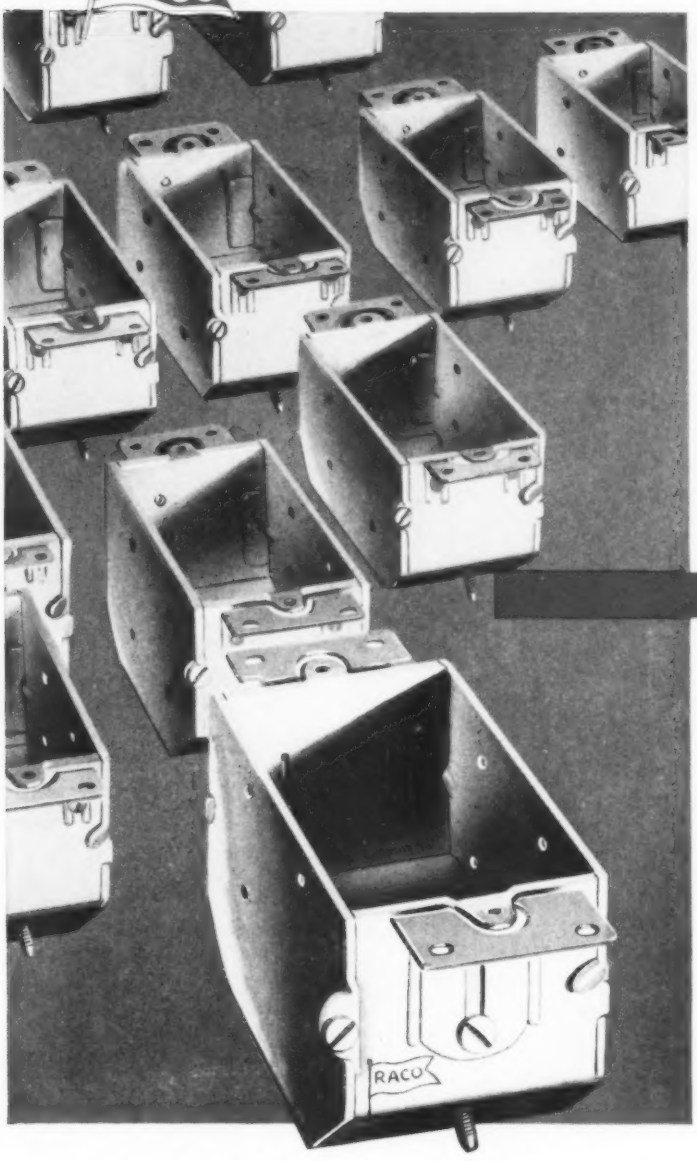
THE STAR

THE WAKEFIELD CEILING

ELECTRICAL SOUTH is published monthly at 56th & Chestnut Sts., Philadelphia 39, Pa., by W. R. C. Smith Publishing Co. Executive and Editorial Offices: 806 Peachtree St., N.E., Atlanta 5, Ga. Entered as second-class matter at the Post Office, Philadelphia, Pa. Subscription Rates: United States and Possessions, $1.00 per year; Canada and Foreign Countries, $10.00 per year.

Volume 33 Number 10

You can always rely on RACO



ELECTRICAL BOXES MAY LOOK ALIKE...

Only RACO Assures You All these Benefits

mechanical details
carefully engineered in excess of national and local code requirements.

electrolytic zinc plating
with a fine clean, neat appearing permanent silvery finish.

best materials
full gauge steel . . . excellent screws . . . precision-fit covers and clamps.

superior service
Your order receives immediate attention at Raco . . . Scheduled for shipment at once.

efficient packaging
for easy handling, storage and inventorying. In hard fiber cartons approved for export.

complete line
of all types and sizes of switch and outlet boxes, covers, clamps, bar hangers, brackets.

new RACO switch box grippers
Install any type box with plaster ears in any type of wall in a few seconds. Save time, save money.

write department E S for complete information

"A BOX FOR EVERY NEED"

RACO ALL-STEEL EQUIPMENT INC., Aurora, Illinois

Announcing the 1953 RLM SPECIFICATIONS BOOK for Industrial Lighting Equipment

contains RLM quality specifications for 15 new units providing
GREATER UPWARD LIGHT for even better industrial seeing conditions
plus IMPORTANT REVISIONS AND ADDITIONS to the other 68 RLM Specifications

Your copy of this newly-published reference book on industrial lighting equipment is ready now at no cost or obligation. Tens of thousands of architects, lighting engineers, electrical contractors, industrial executives and others have for 10 years relied on the RLM Specifications Book as an invaluable aid in measuring illumination, construction and performance standards, which are basic to lighting equipment efficiency, economy and ease of maintenance.

This new 1953 "blue-cover" edition is even more useful and valuable. It incorporates long-awaited specifications for 48", 72" and 96" RLM Semi-Direct Fluorescent Units. The new specifications cover 15 variations of this new "Upward Component" unit which directs from 20 to 30% of the light upward.

Altogether, this greatly-enlarged 1953 RLM Specifications Book has 52 pages, covering 83 different types and sizes of RLM-certified incandescent, fluorescent and mercury industrial lighting units. All specifications have been brought up-to-date in accordance with latest illuminating engineering developments.

Whether you buy, sell or specify industrial lighting equipment, you are invited to send for your FREE copy of the 1953 "blue-cover" edition of the RLM Specifications Book. Address request on your letterhead, please, to: RLM STANDARDS INSTITUTE, SUITE 828, 326 W. Madison Street, Chicago 6, Illinois.

LOOK FOR MANUFACTURER'S NAME
ELECTRICAL TESTING LABORATORIES, INC.

RLM STANDARDS INSTITUTE
INCORPORATED

The letters RLM stand for Reflector and Lighting Equipment Manufacturers

R191

ELECTRICAL SOUTH

SERVING THE 18 SOUTHERN AND SOUTHWESTERN STATES

October, 1953 — Vol. 33—No. 10

CARL W. EVANS, *Editor*

VIRGIL S. PRICE, *Associate Editor*

FRANCES B. KELLY, *Assistant Editor*

BARON CREAGER, *Southwestern Editor*
(1305 National City Bldg., Dallas, Tex.)

T. W. McALLISTER, *Vice-Pres., Editorial Director*

FRANK P. BELL, *Business Manager*

RUFUS G. PRICE, *Asst. Business Manager*

J. A. MOODY, *Production Manager*

Editorial and Business Offices

Tel. Atwood 4462

806 Peachtree Street, N. E.,
Atlanta 5, Georgia

ANNUAL SUBSCRIPTION—$1.00
FOREIGN—$10.00

Business Representatives

New York:
GERARD TEASDALE, 78 Manhattan Ave., New York, N. Y. Tel. University 4-2087

Cleveland:
W. G. SHEEHAN, 2516 Gasser Blvd., Rocky River Station, Cleveland 16, Ohio. Tel. Edison 1-0856

Chicago:
ROBERT A. BLUM, 333 No. Michigan Ave., Chicago 1, Ill. Tel. Central 6-6964

Los Angeles:
L. B. CHAPPELL, 6399 Wilshire Blvd., Los Angeles 48, Calif. Tel. Webster 3-9241

Charlotte:
W. C. RUTLAND, P. O. Box 102, Gastonia, N. C. Tel. 7995

Published Monthly by

W. R. C. SMITH PUBLISHING COMPANY
Atlanta, Ga., and Philadelphia, Pa.

W. J. ROOKE, *President;*
RICHARD P. SMITH, *Executive Vice-President;*
T. W. McALLISTER, *First Vice-President;*
E. W. O'BRIEN, *Vice-President;*
A. E. C. SMITH, *Vice-President;*
O. A. SHARPLESS, *Treasurer;*
A. F. ROBERTS, *Secretary;*
SERA J. JONES, *Asst. Secretary and Treasurer.*

Publishers Also of

TEXTILE INDUSTRIES
SOUTHERN AUTOMOTIVE JOURNAL
SOUTHERN BUILDING SUPPLIES
SOUTHERN POWER & INDUSTRY
SOUTHERN HARDWARE

In This Issue

Lighting: a productive sales facility	34
Relighting a department store	37
Light conditioned homes attract thousands	40
Canvassing sells lighting, builds load	42
Utility microwave communications network	43
The 1953 Electrical Code—Part II	44
Virginia utility men hold two-day meeting	48

Economic Comment	5
Industry news	82
Dates ahead	94
Names in the news	95
New product news	100

LIGHTING TRENDS IN THE SOUTH

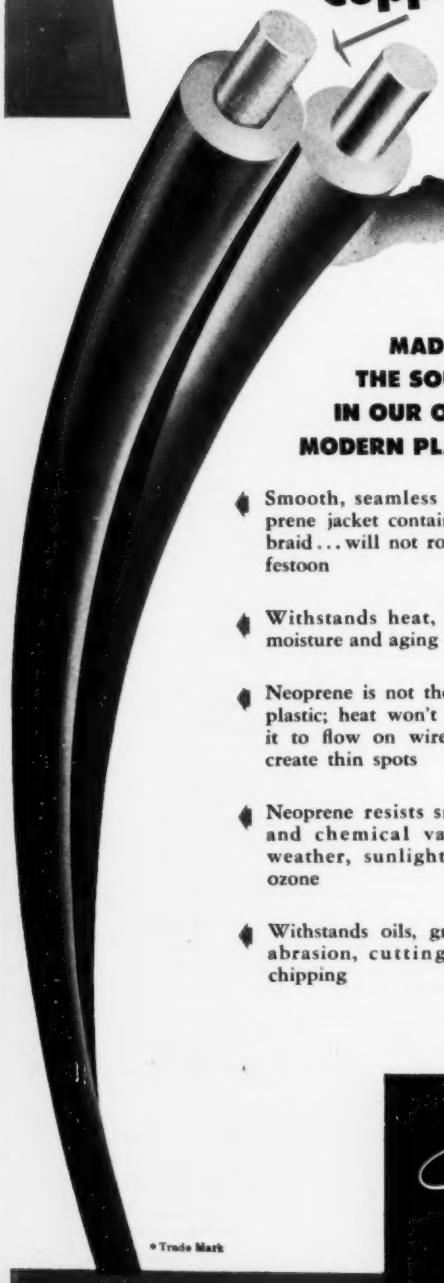
School lighting leads modernization trend by H. S. Thomas, Jackson, Miss.	51
Luminous ceilings featured in capital by Harold V. Oerting, Washington, D. C.	52
Growth of Houston creates lighting jobs by H. G. Hrivnatz, Houston, Texas	53
Shopping area success attributed to lighting by William B. Shenk, St. Petersburg, Fla.	54
Incandescent downlights prevalent in Dallas by W. E. Folsum, Dallas, Texas	56
R-52 lamps play role in light for industry by Roger W. Renkel, St. Louis, Mo.	58
Activity in all fields reported in Georgia Joe B. Browder, Atlanta, Ga.	60
Retail stores using more incandescents by H. M. White, Baltimore, Md.	64
Commerce and industry modernization increases by John B. Deck, Jr., Dallas, Texas	66
Merchants stimulated to relight stores by W. H. Sadler, Valdosta, Ga.	68
Trial lighting kit offered Roanoke stores by J. W. French, Roanoke, Va.	70
Tulsa lighting must be functional and efficient by M. J. Meyers, Tulsa, Okla.	72
F lamp use balanced with incandescents by James A. Banton, Tampa, Fla.	74
Progress focused on schools, streets by Floyd A. Covington, San Antonio, Texas	76
Old World atmosphere enhanced with lighting by K. J. Wheelahan, Jr., New Orleans, La.	80

Copyright 1953, W. R. C. Smith Publishing Co., Atlanta, Georgia

Southwire

NEOPRENE-COVERED
Copper or Aluminum Service Wire

FOR THE ELECTRICAL SOUTH



MADE IN THE SOUTH IN OUR OWN MODERN PLANT

- Smooth, seamless Neoprene jacket contains no braid . . . will not rot and festoon
- Withstands heat, cold, moisture and aging
- Neoprene is not thermoplastic; heat won't cause it to flow on wire and create thin spots
- Neoprene resists smoke and chemical vapors, weather, sunlight and ozone
- Withstands oils, greases, abrasion, cutting and chipping

NOW SOUTHWIRE—makers of fine-quality aluminum and copper wire and cable—is making genuine Neoprene-covered service wire for the Electrical South.

Neoprene's outstanding properties provide the kind of protection needed most for service wire—tough, seamless, weatherproof armour that's little affected by conditions which cause most wire failures, that assures long, dependable service under varying weather conditions.

Beneath this Neoprene armour are wires of cold-drawn aluminum or copper SOUTHWIRE, skillfully produced by experienced craftsmen to meet the most rigid requirements and standard specifications.

Top this off with SOUTHWIRE service (delivery usually within 24 hours) and you have the reason why more and more users are turning to SOUTHWIRE to meet their needs of wire for the electrical south!

OTHER SOUTHWIRE PRODUCTS

- **Bare Wire and Cable—Copper**
- **Copperweld* Composite Conductor**
- **ACSR and All Aluminum Wire and Cable**
- **Cable Accessories**
- **Steel Strand**

Write, Wire or Telephone

Southwire Company

CARROLLTON, GEORGIA

* Trade Mark

Economic Comment

HOW CURRENT EVENTS WILL AFFECT BUSINESS TRENDS

by J. Whitney Bunting, Ph.D.

Tax reduction—possibility or probability?

◆ SECRETARY of the Treasury George Humphrey has now followed the line of most Republican leaders in forecasting the tax reductions next year. His opinion is of course more important than the usual political utterance, both because of his high financial post in the administration, and also because he has pin-pointed the date of January 1, 1954, for this accomplishment.

It is quite easy for the politician to forecast tax reductions at a future date, for in most cases, he cannot be truly held to the actuality of this circumstance. Rather, one expects a politician to make some such statement. On the other hand, Secretary Humphrey need not follow the line of political activity. After ten months in office with an opportunity to study rates of income and out-go, and, with a good working knowledge of future expenditures patterns of the present administration, his voice should be tinged with fact. There is little doubt but that he honestly believes tax reduction a probability, and will strive in this direction.

Business decisions will incorporate this promise into their planning, and welcome it will be. Many observers in recent weeks have had growing fears about the prospects for year-end activity. Some of the brightness had left their forecasts. Now, recognizing the broad stimulating effects of a tax reduction program, they now state that it is again a hopeful era, with business activity strong into 1954.

Further impetus will come from a stronger stock market. Conditions recently pointed to a softening of market prices, but, if this does not go too far, then minor reductions in price would increase the general health of stock prices.

Failure now to achieve promised tax reductions would be a terrific political blow to Republican hopes and aspirations in 1954. Indeed, such failure would almost certainly cause a loss of many congressional seats to the party, and might even lead to a divided administration. Such a condition invariably promotes weakness of policy and, in days of international tension, can undermine our national strength in bargaining across treaty tables.

Our eyes must not be shut

Many economists have been critical of these business leaders and others who have glibly stated that all is completely fine in the economic picture. It is true that many of these statements have had the purpose of strengthening public confidence in the economic system, and in a way they have been justified.

However, it is sometimes difficult to reconcile these rosy analyses with certain depressing circumstances unless one has a full realization of all the facts in the case. There is but little doubt that there have been a few danger signals of depression tendencies. It would be quite simple to blow these up so that the average layman would be thoroughly convinced that the period of good business is close to the end. Such factors as the stock market drop, curtailment of auto and truck production, some labor and employment uncertainty, and continued high tax levels, all could, of course, reflect a change into a recession, or, at the worst, a depression.

However, other factors of a positive nature are strong enough in themselves to overcome those listed above, thus allowing the good era to continue.

One never can correct or overcome a difficulty by not noticing it. Thus, if we should shut our eyes to depression factors, they might contribute to an economic breakdown. The strongest approach is to recognize that these factors exist; work to correct them or to minimize their effects; and strive to strengthen the positive, optimistic factors so that they will continue to hold strongly against all attacks.

There is a distinct possibility of some busines decline within the next six to twelve months. It will not be a depression, unless the public allows it to get out of hand. But these conditions must be recognized and considered, or else there is little hope of control. Honest understanding of economic perils normally presents a fear complex among businessmen and consumers. This complex, because it limits spending, is more to be feared than the economic factors responsible.

Taft-Hartley revision

In spite of Vice-President Nixon's address to the A. F. of L., Administration statements tended to minimize the effect of the Durkin resignation. Secretary Durkin had high hopes of directing Republican labor policy from his position of Secretary of Labor. There is no doubt but that he had himself visualized as a crusader that could do a job within the Republican Administration that had been impossible before. His eyes held fast to the pattern of amendment that union leaders had agreed to in principle as the surest way to end the abuses they saw in Taft-Hartley.

However, he did not recognize the weight of public opinion that still forces most congressmen to avoid any change in this legislation. In spite of all publicity that labor gives to the faults and dangers found in this law, nevertheless the public in general has held fast to the principles contained therein. Each year that passes without major labor difficulty adds greater public acceptance to Taft-Hartley.

So, when Secretary Durkin submitted his resignation with a blast at the Eisenhower Administration for failure to promote nineteen changes in the law that would cut its efficiency considerably, the public and press both showed little ex-

(*Please turn to page* 105)

Dr. Bunting, well-known southern economist, is president of Oglethorpe University, Oglethorpe, Ga.

Simplex RESEARCH

WEEKS

SAVES ~~DAYS~~

of Expensive Labor

NEW SIMPLEX RHW

Carries *HEAVIER* Loads at *HIGHER* Temperatures

Once more the Simplex Laboratories have "scooped" the industry by producing the first RHW Wire to meet the new National Electrical Code. This rubber-insulated, rubber-jacketed cable is rated by the Underwriters at 75°C. (167°F.) wet or dry operation. At the present time this is the only wire so rated by them.

You might logically ask, "That's all fine, but what does it mean to me?" Very frankly, it means plenty. Suppose your conduits or ducts now are loaded to their capacity, yet you have to increase the amount of current you carry through them. You have two choices: Either you can dig up and replace your ducts with bigger ones, which is a mighty expensive proposition, or you can go "modern" and use Simplex-ANHYDROPRENE Type RHW or Simplex-ANHYDREX Type RHW. ANHYDROPRENE is for use in ducts and conduits; ANHYDREX for direct burial.

You can operate the conductors of this new wire at 75°C. (167°F.) without harming the insulation. Thus your present conduits or ducts need not be disturbed. Just pull out your old cables and pull in Simplex-ANHYDROPRENE cable with RHW insulation.

This is only one of the advantages that comes to you from using Simplex RHW insulation in ANHYDROPRENE and ANHYDREX cables. Want to know more?

We'll gladly send you further information without obligation. If you prefer, you can get this information from your local Simplex representative.

Simplex

WIRES & CABLES

SIMPLEX WIRE & CABLE CO., 79 Sidney Street, Cambridge 39, Mass.

CATALOGS and BULLETINS

Available Free to Readers of Electrical South upon Request

(Additional items will be found on page 9)

1008—Electrical Equipment. The latest edition of the Federalog has just been issued by Federal Electric Products Co., 60 Paris St., Newark 5, N. J. This profusely illustrated catalog contains complete details of Federal's newest motor controls, safety switches, service equipment, circuit breakers, panelboards, switchboards, and busduct.

1030—Condensed Lighting Catalog. This 8-page descriptive bulletin issued by Pittsburgh Reflector Co., 450 Oliver Bldg., Pittsburgh 22, Pa., describes in detail the most popular items in the Pittsburgh line of fluorescent and incandescent lighting equipment. Each item is fully illustrated and cataloged, and many are accompanied by installation drawings.

1032—Receptacles, Plugs, and Connectors. Russell & Stoll Co., Inc., 125 Barclay St., N. Y., has released a bulletin No. EL-4-46, describing the new Ever-Lok receptacles, plugs and cord connections for 30 amperes, 440 volts, a-c. Typical uses are for heavy duty industrial purposes.

1048—Plug-In Strip. A complete revision of Catalog CF-2 has recently been published by National Electric Products Corp., Pittsburgh, Pa. This 8-page, illustrated brochure pictures the 3 ft. and 6 ft. standard lengths of the redesigned multi-outlet branch circuit assembly. Several pages are devoted to detailed instructions for cutting the Plug-In strip on the job.

1054—Fluorescent Fixtures. Catalog No. 52 illustrates the commercial, industrial and residential designs offered by the Kayline Co. Featured are troffers, glass and louver type, recessed incandescent units, and many others. The catalog is available from the Kayline Co., 2480 E. 22nd St., Cleveland 15, Ohio.

1058—Conductor Fittings. A complete catalog, illustrated and listing prices, has been issued by Penn-Union Electric Corp., Erie, Pa. Described is the company's complete line, including a wide variety of service connectors, terminals, tees, and taps; also many other types of conductor fittings.

1076—Modular Lighting. A 20-page booklet containing interesting and useful information about the "modular system" of lighting can be obtained by writing to the Mitchell Manufacturing Co., 2525 Clybourn Ave., Chicago 14, Ill.

1082—Wakefield Luminous Acoustical Ceiling. Just off the press is this booklet devoted to the photometric and acoustical performance of the Wakefield Ceiling. This covers full engineering data and full engineering information and layout help for architects and engineers. F. W. Wakefield Brass Co., Vermilion, Ohio.

1086—Connectors and Couplings. Tomic Sales and Engineering Co., 4864 Woodward Ave., Detroit 1, Mich., now have available catalog sheets containing data on the complete line of their connectors, couplings, and cable connectors.

1088—Fittings and Fixtures. A 24-page illustrated catalog covering Killark fittings and fixtures is offered by Killark Electric Mfg. Co., Vandeventer and Easton Aves., St. Louis 13, Mo.

1090—Midget-Size Busduct. Complete information on Power Plugin, the new, midget-size busduct, is found in bulletin No. 703, available from Frank Adam Electric Co., 3650 Windsor Pl., St. Louis 13, Mo.

1092—Electrical Boxes and Conduit Fittings. Steel City Electric Co., 1207 Columbus Ave., Pittsburgh 12, Pa., offers a catalog of their complete line.

1110—Flexible Cords and Portable Cables. Bulletin H-420, a 55-page illustrated booklet describing Hazacord cords and cables, is being offered by Hazard Insulated Wire Works, Div. Okonite Co., Wilkes-Barre, Pa.

1130—Conduit Fittings. The latest completely illustrative catalogue on their diversified line of conduit fittings is announced by The Atlantic Conduit Fittings Company, 589 Atlantic Avenue, Boston 10, Mass.

1136—Cavalier Heaters. A booklet is available from Cavalier Corp., Chattanooga, Tenn., describing the special features of the Cavalier Wall Insert Automatic Electric Heaters, and including specifications on the four models of the line. Cutaway views and photos illustrate exclusive features.

1144—Fluorescent Fixtures. Fluorescent Catalog No. 34 has just been issued by Lithonia Lighting Products Co., Lithonia, Georgia. It contains descriptive material and specifications on a wide range of fluorescent equipment suitable for residential, commercial, industrial and other applications.

ELECTRICAL SOUTH
806 Peachtree St., NE
Atlanta 5, Ga.

October, 1953

Gentlemen:

Please send me the bulletins and catalogs indicated.

(Print Plainly)

Name ..... **Title** .....

Company .....

Address .....

City & State .....

Circle numbers below. Bulletins and catalogs will be mailed promptly.

1008	1030	1032	1048	1054
1058	1076	1082	1086	1088
1090	1092	1110	1130	1136
1144	1146	1150	1156	1166
1172	1178	1180	1182	1184
1186	1188	1190	1192	1198
1200	1202	1204	1206	1208
1214	1216	1218	1220	1222
1224	1226			

Don't Whiff this one!

Get all the facts *Now* about VICTOR'S *New* PACE-SETTING, MONEY-MAKING LINE OF VENTILATORS!

Our new line of wall and ceiling ventilators is as handsomely styled as a Pro's swing . . . as superbly engineered as his bag of weight-balanced clubs!

It's a line that you'll want to promote to the hilt. For in addition to its many salesworthy features, it carries the famous Victron trademark . . . your assurance of immediate acceptance from walk-ins and builders alike.

To make your sales job easier, we're telling the Victor story in the magazines your customers read.

So tee-up *your* ventilator sales by ordering up now! But first, take a good look at these grand new ventilators!

Victor Model V-83

- Smartly-designed, one-piece grille permits maximum air passage!
- Comes in standard snow-white enamel finish, or in chrome at slight extra cost!
- "Starts" and "stops" by easy-reach pull chain!
- Powered by induction-type motor. No radio or television interference!
- Whisper-quiet operation!
- Propeller and motor assembly "snap-in"—easy to install and clean!
- Comes "knocked down" for quick, on-location installation!
- Comes in two sizes—8″ (Model V-83) and 10″ (Model V-103)!

Victor 10″ Wall or Ceiling Ventilator! V-C W103

- Wall or ceiling installation optional!
- King-sized vent duct provides 20% more cross sectional duct area. Won't "choke" off air delivery—ever!
- Deep-pitched, 3-blade propeller gives maximum air delivery, clears out hot, grease and odor-ladened air in a hurry!
- 3-speed control switch! (Optional at slight extra cost).
- Twin dampers to prevent backdraft!
- Beautiful, one-piece grille in snow-white enamel or chrome!
- "Snap in" propeller and motor assembly!

For Dealer Use... Handsome, Victor Floor Display!

This colorful, eye-flagging display attracts attention. Tells facts customers want to know. It comes ready to set up, ready to make sales!

Don't *whiff* this great opportunity! For all the details, write, wire or phone your Victor Representative. Do it soon for greater sales.

Victron

VENTILATORS AND FANS

VICTOR VENTILATOR COMPANY

Lockland, Cincinnati 15, Ohio, Dept. ES10

Victor makes a complete line of attic and exhaust fans. Ask about them!

1146—Ceil Heat Electric Radiant Heating Cables. New illustrated folders, fully describing Ceil Heat invisible Electric Radiant Heating Cables, have just been issued by the Ceil Heat Division of Homes, Inc., 5212 Homberg Dr., Knoxville, Tenn. Consumer explanation of radiant ceiling heat as well as technical installation instructions are included in the literature.

1150—Fluorescent Fixtures. Colorful, 20-page catalog. Front cover shows interesting illustration of "Light through the Ages." Catalog gives complete specifications and pictures of entire Naturlite line manufactured by Light & Power Utilities Corp., 1035 Firestone Blvd., Memphis, Tenn.

1156—Industrial Lighting. The new Abolite Catalog and Handbook contains a complete descriptive story of all commercial, industrial floodlighting equipment manufactured by the Jones Metal Products, Inc. of West Lafayette, Ohio. Several new sections have been added and all major lighting units have revised illustrations, cutaway views, dimentional drawings, plus typical installation diagrams and photos.

1166—Electrical Fittings. 40-page illustrated catalog and price list and wide Gedney line. Shown and listed are conduit, threaded entrance, SEC, EMT and ground fittings, and box connectors for both armored and non-metallic cable. Most of the line is made of tough malleable iron and hot dip galvanized. Desired copies available from Gedney Electric Co., RKO Bldg., Radio City, New York 20, N. Y.

1172—Bus Duct Manual. A new 68-page manual describing types of bus duct and accessories available, and presenting application and test data, specifications, information on pricing a typical bus duct installation, and a typical bill of materials, is available from Westinghouse Electric Corporation, Box 2099, Pittsburgh, Pa. The manual is designated as Bulletin No. B-4272A.

1178—Remote-Control Wiring System. Bulletin 16-200 is a 36-page manual describing layout and installation of remote-control wiring, and is available from General Electric Co., Construction Materials Dept., Bridgeport 2, Conn. Advantages and explanation of the system are followed by illustrated installation procedure. System components, circuit diagrams, and a typical home layout round out this completely descriptive manual.

1180—Fluorescent Lighting. 24-page catalog describing complete line of commercial, industrial strip and kitchen lighting units, shielded and open, showing installation and maintenance data and price lists. Available from Louisville Lamp Co. Louisville, Ky.

1182—Switch and Bus Insulators. A new bulletin giving specifications engineering data, contours, dimensions, etc. on its full line of Switch and Bus Insulators has been recently published by Victor Insulators, Inc. of Victor, N. Y. Write for Bulletin No. 5 or use reply coupon.

1184—Underground Cables. Complete 16-page catalog. Describes construction and illustrates uses for Simplex-ANHYDREX Cables. Catalog contains cable weights and diameters, as well as complete splicing instructions. Copies may be obtained from Simplex Wire & Cable Co., 79 Sidney Street, Cambridge 39, Mass.

1186—Electric Heating File, offered by Electromode Corp., 45 Crouch St., Rochester 3, N. Y., is made up to suit individual requests for information on Electromode Heaters for domestic, industrial or farm use; or to contain material on the complete Electromode line if desired. Included are specification sheets, illustrations, installations, how to select the right capacity heater, how to figure heat loss, wiring diagrams, and price sheets.

1188—CSP Distribution Transformers. A 32-page, three-color catalog, "Transformers That Cut Distribution Costs," is now available from Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa. The "how" and "why" of these transformers is presented in four divisions: performance, evidence, construction, and the products.

1190—Electrical Fittings and Fixtures. Blackhawk Industries, Dubuque, Iowa offer a new 2-color bulletin describing and illustrating B-I Electrical Fittings and Fixtures. Included are conduit and cable fittings, conduit and cable straps, staples, box supports, sill plates, locknuts and bushings, wire holders and yard lights.

1192—Wire Pulling Lubricant. Illustrated six page folder showing the advantages of an improved Y-Er Eas wire pulling lubricant is available from Electro Compound Company, 3812 West 150th Street, Cleveland 11, Ohio.

1198—TOOLS AND WIRING MATERIAL. A new eight page folder showing the new JIFFY SAW ATTACHMENTS and other hole cutting tools, as well as SNAP-IN BLANKS, BOX SUPPORTS, NO-KINK FISH TAPE, and other wiring specialties, has just been issued by CLYDE W. LINT CO., 1144 W. Washington Blvd., Chicago, Ill.

1200—Fluorescent Fixtures. Complete information on fluorescent lighting for offices, commercial interiors of all types, industrial plants, school, libraries, etc., available from Leader Electric Company, 3500 N. Kedzie Avenue, Chicago 18, Illinois.

1202—Hazardous-Location Equipment. Bulletin 2631 contains up-to-date information (following 1951 Code revision) on why equipment for hazardous locations is designed and built as it is, and is available from Crouse-Hinds Co., Wolf & 7th, No., Syracuse 1, N. Y. A detailed treatment of Article 500 of the 1951 Code is found in Bulletin 2627, also available from Crouse-Hinds.

1204—Electrical Conduit Fittings, Conduit Nipples, Couplings, Elbows. Illustrated Catalog available upon request to Electrical Fittings Corp., Woodside, N. Y., or our nearest warehouse in your locality.

1206—Electrical Tape. Available in catalog sheet form are Haartz-Mason specifications for Paramount Friction Tape, Stronghold Rubber Tape, and the new Paraplastic Plastic Tape which effectively does the work of both rubber and friction tapes for faster and neater taping. Haartz-Mason, Inc., Watertown 72, Mass.

1208—Contemporary Lighting Fixtures. New catalogs are available from Pressteel Company, 800 Bancroft Way, Berkeley 2, California. Profusely illustrated, the catalogs feature their Recessed, Swivel-Lite and Architectural Series, and include prices, framing-in-dimensions and candle-power distribution curves. The Swivel-Lite and Architectural Series are available in a wide range of decorator colors.

1214—Wire, Fuses, Wiring Devices, General Catalog of Royal Electric Company, Inc., Pawtucket, R. I., covering flexible service and lamp cords, cord sets, extensions, trouble lights, wiring devices and decorative Christmas lighing is available to wholesalers. Dealer catalogs may be secured from Royal distributors.

1216—Metal Framing—New Pocket Catalog No. 800. Handy reference for the engineer, draftsman, or man on the job—84 pages of useful reference tables, ideas, photos, drawings and other data on how to mount, frame, hang and support all types of mechanical and electrical equipment with UNISTRUT All-purpose Metal Framing. Unistrut Products, 1013 Washington Blvd., Chicago 7, Ill.

1218—Carbon Products. A 28 page catalog on Motor and Generator Brushes and carbon products telling how to order brushes, grade recommendations, characteristics and description of brush grades, and a complete review of types of shunts, brush connections, terminal and shunt location. Catalog #95 is available from the Helwig Company, 2536 North 30th Street, Milwaukee, Wis.

1220—Stadium Lighting. The Pyle-National Company, 1334 N. Kostner Ave., Chicago. Ill., announces the availability of a new 8 page bulletin, No. 605, on stadium lighting, describing in detail floodlighting of a typical outdoor athletic arena stressing the importance of using fully enclosed floodlights.

1222 — Decorative Carbon Lamps. Nalco Candylbeme decorative carbon lamps are the subject of a new leaflet which is now available from North American Electric Lamp Co., 1014 Tyler St., St. Louis, Mo. Descriptions, specifications, and list prices are given for the lamps which are suitable for use in electric candle sticks, crystal table displays, funeral chapels, wall brackets, altar lights, candelabra, torchieres, menorahs, churches, and hotels.

1224—Electrical Equipment. The Wadsworth Electric Mfg. Co., Inc., Covington, Kentucky, has issued a new catalog Con 15-0 and Bulletin W. C. B. 53-1, containing data on their lines of Safety Switches. Service Equipment Distribution Panels and "E-Z-RED" Circuit Breakers.

1226—"Concentrol" Motor Control Centers. Completely descriptive, illustrated Bulletin 400 of the Continental Electric Equipment Company, Box 1055, Cincinnati 1, Ohio, gives full information on modular standardized "Concentrol" motor control centers. This bulletin features helpful layout and specification data of interest to both electrical equipment planners and plant production men.

ARE YOU PAYING FOR THIS?

AND GETTING ONLY THIS?

THE SAME money you pay for about 7 inches of copper weatherproof wire will buy *12 inches* of Kaiser Aluminum weatherproof wire! Here's what this means in dollars:

$46.27 will buy 1000 feet of #6 copper. But only $27.05 will buy 1000 feet of #4 Kaiser Aluminum neoprene or polyethylene covered wire.*

That's a saving of $19.22 per 1000 feet in material costs alone!

You are certain of big material savings with *any* type of Kaiser Aluminum weatherproof wire. What's more, the use of Kaiser Aluminum provides *additional* savings in handling, construction and maintenance costs.

These big savings, plus proved efficiency under the most rugged conditions, is the reason for the rapidly growing use of aluminum weatherproof for distribution and service lines. (Almost 90% of all transmission lines are now being built with aluminum wire.)

We have paced this growth with the development of major production facilities. Today, we are the nation's largest producer of weatherproof and insulated aluminum wire and cable.

Let us furnish you with complete information on the large economies possible with aluminum conductor. We'll give prompt attention to your request. Call or write any of our distributors or Kaiser Aluminum & Chemical Sales, Inc., Oakland 12, California.

Kaiser Aluminum

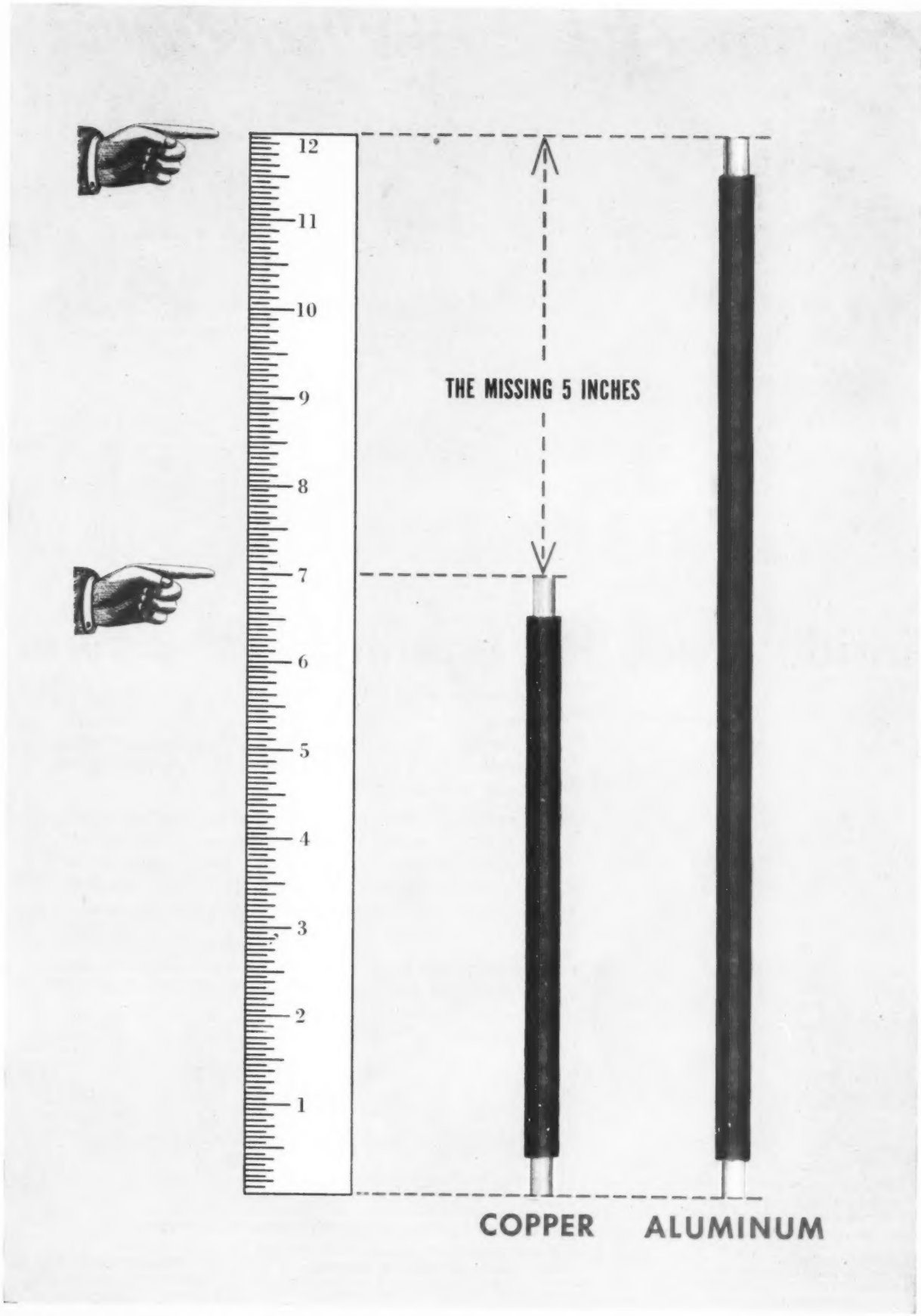
Setting the pace—in growth, quality and service

*Based on August, 1953 prices.

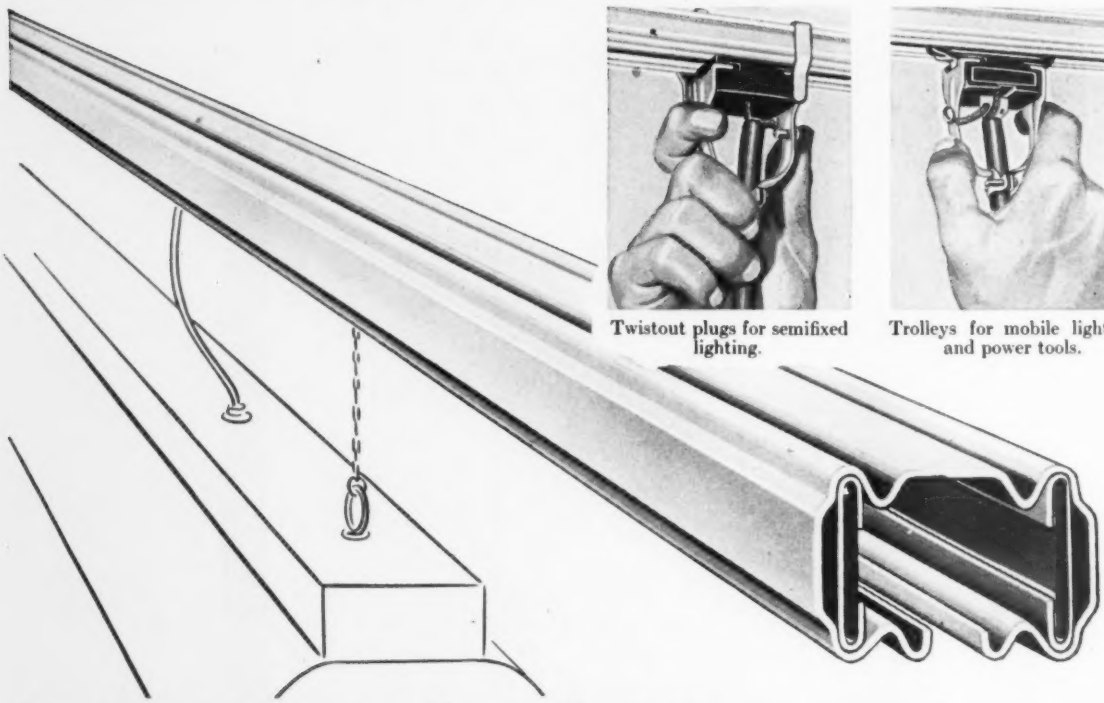
KAISER ALUMINUM ELECTRICAL CONDUCTOR DISTRIBUTORS

Line Material Company
General Electric Supply Company
Westinghouse Electric Supply Co.

Capital Electric Supply
Central Electric Supply Company, Inc.
Champion, Inc.
City Electric Distributors, Inc.
Crescent Electric Supply Company
Dauphin Electrical Supplies Company
Dutton-Lainson Company
Electrical & Mechanical Supply Corp.
Eoff Electric Company
Florida Electric Supply, Inc.
George H. Wahn Company
Hampden Electric Supply Co.
Hunzicker Brothers
Interstate Electric Co. of Shreveport, Inc.
Maydwell & Hartzell, Inc.
Mine & Smelter Supply Company
Nelson Electric Supply Company
Price Electric Company
Russell Beldon Electric Company
S. M. Supply Co., Inc.
Southern Minnesota Supply Company
Stuart C. Irby Company
Stubbs Electric Company
Tafel Electric & Supply Company
The Korsmeyer Company
Virginian Electric, Inc.


12
11
10
9
8
7
6
5
4
3
2
1
THE MISSING 5 INCHES
COPPER
ALUMINUM

BullDog Universal *Trol-E-Duct*



Twistout plugs for semifixed lighting.

Trolleys for mobile lighting and power tools.

inside track for lighting and power

To feed one light, or a thousand . . . or for electrified track for mobile tools and lights . . . install BullDog Universal Trol-E-Duct. You'll get flexible power—supplied at low cost—from this small-sized, continuous outlet duct system.

Standard 5′ and 10′ duct sections, twistout plugs, trolleys and hanger accessories make up this completely prefabricated, completely reusable system. Installation is simple, fast. Once installed, it provides complete flexibility, permitting additions or rearrangements as conditions require.

For planning help or additional information, consult your nearest BullDog Field Engineer, or write BullDog Electric Products Company, Dept. ES103, Detroit 32, Michigan.

© BEPCO

THOROUGHBRED IN ELECTRICAL EQUIPMENT

BULLDOG

ELECTRIC PRODUCTS COMPANY

CONSULT THE FOLLOWING SOUTHERN REPRESENTATIVES

Walker Electrical Company, Inc.
70 Bennett St., N.W., P.O. Box 8, Section D
Atlanta, Georgia

Wilson Electrical Equipment & Company
2930 Commerce Street
Houston, Texas
101 E. Maple Street
San Antonio, Texas

Standard Electric Mfg. Co.
2401 Federal Street
Dallas 1, Texas

Curves are good in some places...

but NOT on the back of a conduit fitting!

KILLARK ELECTROLETS *have*

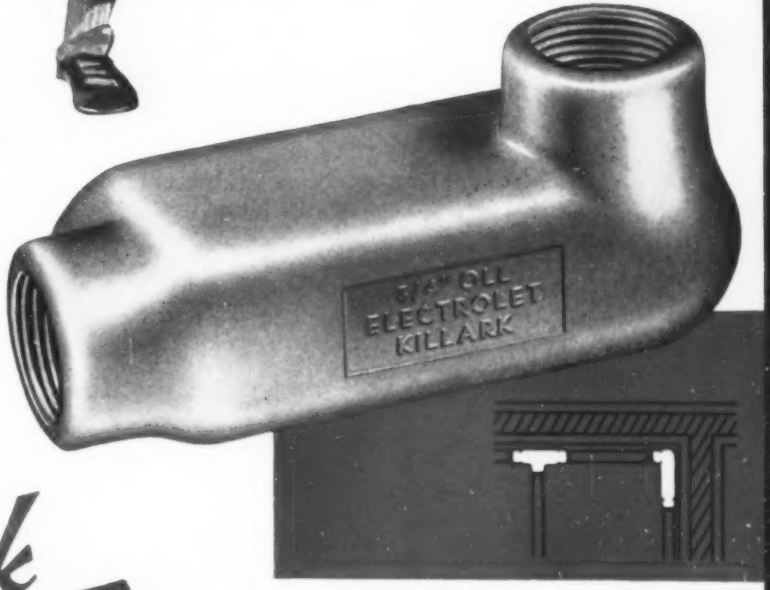
Flat Backs to fit flush with the wall

Most installation surfaces are flat. That's why Killark Electrolets are designed with *flat backs*. They lie flat for greater rigidity, are easier to install, and, once up, "stay put"—because they can't turn or work loose.

This is just another of the many superior "extras" you get when you insist on Killark.

KILLARK offers you so much *MORE* for the *SAME* Price!

- **Non-Rusting, Non-Corroding Alumalloy Clear Through.**
- **Light in Weight—Strong in Service.**
- **Safe and Non-Sparking.**
- **Roomier, Easier Splicing.**
- **Smooth, Burr-Free Inside and Out—No More Scraped Insulation and Fingers.**



KILLARK ST. LOUIS

Killark

"KILLARK—A Fitting Name To Remember"

ELECTRIC MANUFACTURING COMPANY

ENTRANCE FITTINGS • CONDUIT BODIES • FLUSH SWITCH FITTINGS • EXPLOSION-PROOF FITTINGS • VAPOR-TIGHT LIGHT FIXTURES • EXPLOSION-PROOF LIGHT FIXTURES • SEALED BEAM FIXTURES

Vandeventer and Easton Aves. St. Louis 13, Missouri

SALES OFFICES and WAREHOUSE STOCKS	Atlanta	69 Mills Street, N. W.	Dallas	1901 Griffin Street	Philadelphia	2014 Chancellor St.
	Boston	156 Purchase St.	Denver	1073 Galapago	Pittsburgh	50 26th St.
	Buffalo	18 Quay St.	Detroit	8319 Mack Ave.	San Francisco	714 Harrison St.
	Chicago	1528 West Adams St.	Los Angeles	412 Seaton St.	Seattle	4130 First Avenue South
SALES OFFICES	Baltimore	11 W. 25th St.	Columbus	2700 E. Main St.	Minneapolis	924 Andrus Bldg.
	Cincinnati	49 Central Ave.	Kansas City, Mo.	616 W. 26th St.	New York	600 W. 181 St.

No matter how you look at it...

NATIONAL ELECTRIC "XDUCT"

New on the inside...

for easy, easy fishing!

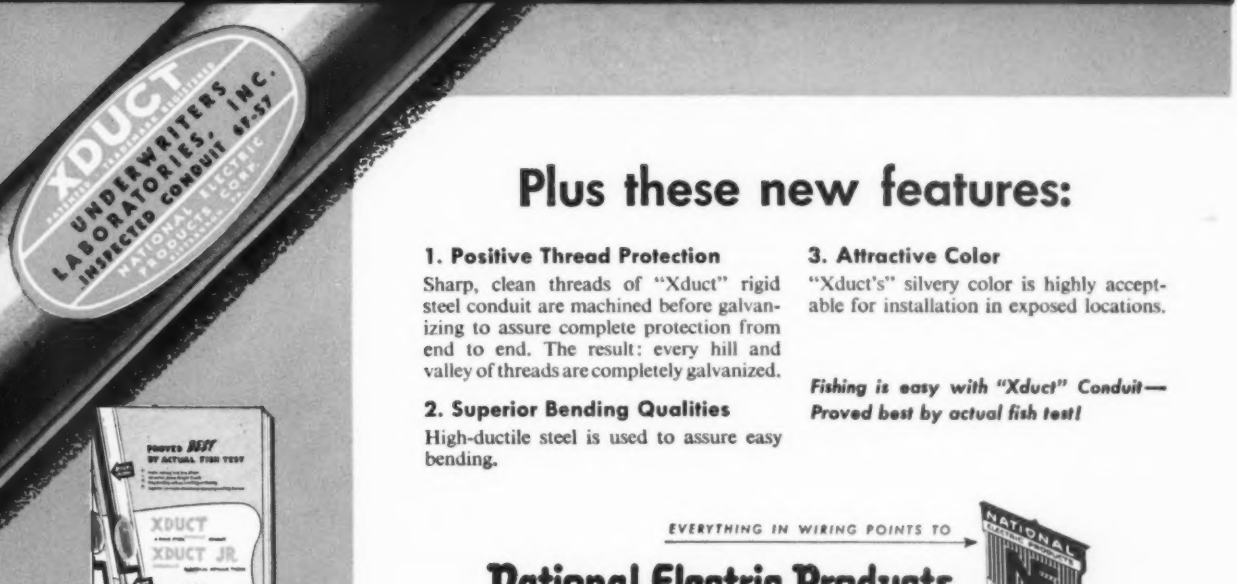
"Xduct's" new baked-on inside coating of aluminum enamel (patent applied for) was developed through intensive research in connection with important government projects. It provides minimum friction between conduit wall and wires. The result: Actual fishing tests conducted with five other leading brands of conduit prove "Xduct" is 66% easier to fish on constant pull —more than twice as easy to start.

New on the outside...

for superior corrosion resistance!

National Electric's revolutionary new patented electrogalvanizing process electrolytically deposits pure zinc *uniformly* over the entire outside surface of "Xduct" conduit, including the threads. The result: a protective coating that adheres positively to the basic steel . . . possesses superior corrosion resisting qualities.

CONDUITS are NEW!



Plus these new features:

1. Positive Thread Protection
Sharp, clean threads of "Xduct" rigid steel conduit are machined before galvanizing to assure complete protection from end to end. The result: every hill and valley of threads are completely galvanized.

2. Superior Bending Qualities
High-ductile steel is used to assure easy bending.

3. Attractive Color
"Xduct's" silvery color is highly acceptable for installation in exposed locations.

Fishing is easy with "Xduct" Conduit— Proved best by actual fish test!

EVERYTHING IN WIRING POINTS TO

National Electric Products

3 Plants • 7 Warehouses • 34 Sales Offices

WRITE TODAY for complete details.

Send this coupon for your copy of this 24 page information booklet which tells the new Xduct story. IT'S FREE.

Listed by Underwriters' Laboratories, Inc. Stocked by leading electrical wholesalers everywhere.

NATIONAL ELECTRIC PRODUCTS CORP.
140 Stanwix Street
Gateway Center
Pittsburgh 22, Pa.

☐ Please send me your free booklet on the new Xduct Conduits.

☐ Please have your representative call.

Name _____

Title _____

Company _____

Address _____

DIVIDENDS ... in human lives

BUSINESS EXECUTIVES!

CHECK THESE QUESTIONS

If you can answer "yes" to most of them, you—and your company—are doing a needed job for the National Blood Program.

- ○ HAVE YOU GIVEN YOUR EMPLOYEES TIME OFF TO MAKE BLOOD DONATIONS?
- ○ HAS YOUR COMPANY GIVEN ANY RECOGNITION TO DONORS?
- ○ DO YOU HAVE A BLOOD DONOR HONOR ROLL IN YOUR COMPANY?
- ○ HAVE YOU ARRANGED TO HAVE A BLOOD-MOBILE MAKE REGULAR VISITS?
- ○ HAS YOUR MANAGEMENT ENDORSED THE LOCAL BLOOD DONOR PROGRAM?
- ○ HAVE YOU INFORMED EMPLOYEES OF YOUR COMPANY'S PLAN OF CO-OPERATION?
- ○ WAS THIS INFORMATION GIVEN THROUGH PLAN BULLETIN OR HOUSE MAGAZINE?
- ○ HAVE YOU CONDUCTED A DONOR PLEDGE CAMPAIGN IN YOUR COMPANY?
- ○ HAVE YOU SET UP A LIST OF VOLUNTEERS SO THAT EFFICIENT PLANS CAN BE MADE FOR SCHEDULING DONORS?

Remember, as long as a **single** pint of blood **may** mean the difference between life and death for **any** American . . . the need for blood is **urgent!**

NATIONAL BLOOD PROGRAM

America's blood bank needs **more** blood, **now**. Be a regular depositor and know that your dividend is saving a life of some American—somewhere.

It may be a soldier shot down in battle, suffering from **shock.** Or someone here at home, sick and in dire need of new blood to restore life. A mother in childbirth, or a child in an accident.

America must give. America is **you**. Won't you call your Red Cross, Armed Forces or Community Blood Donor Center right now, for an appointment?

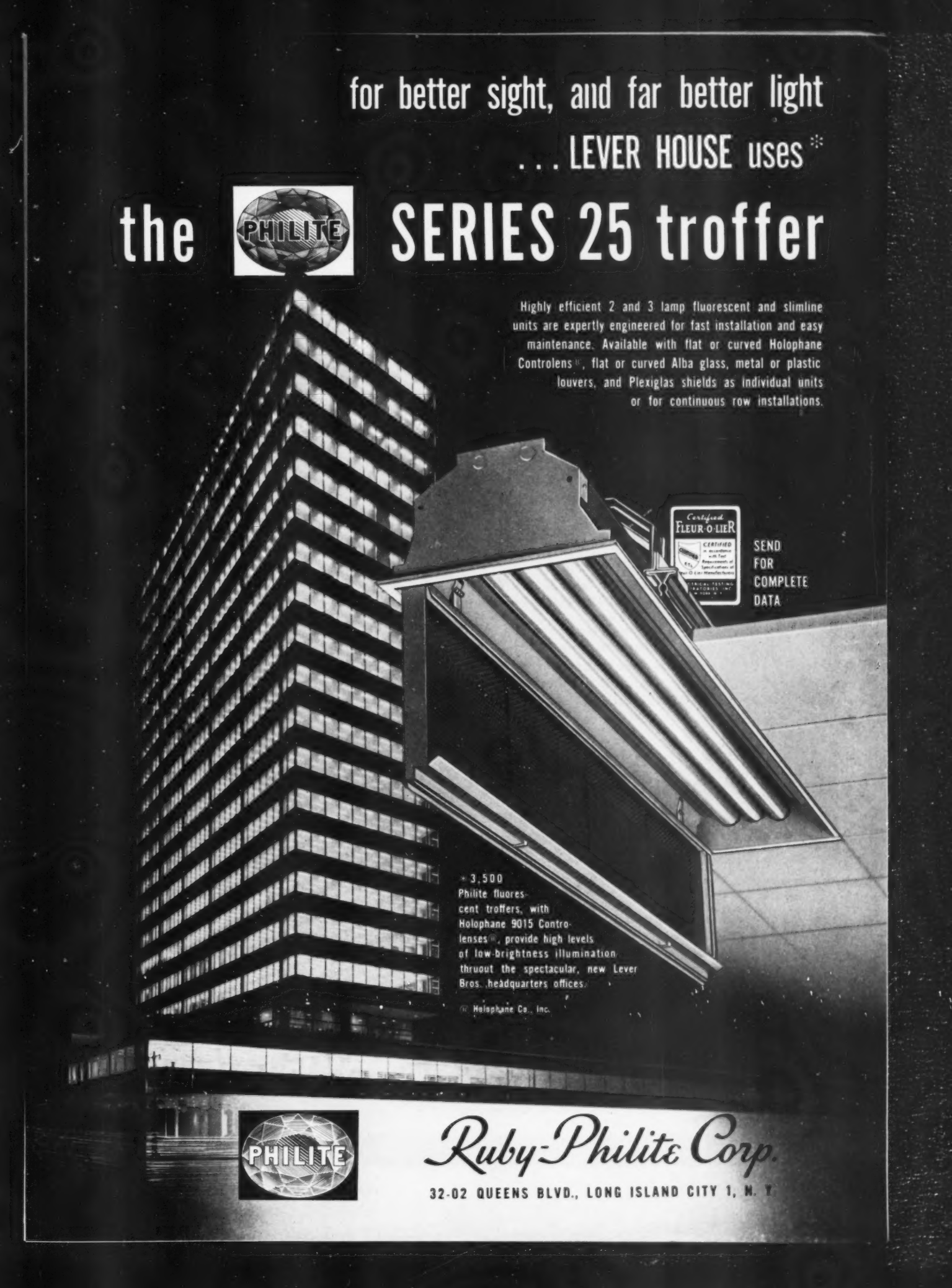
GIVE BLOOD

...give it again and again

for better sight, and far better light

. . . LEVER HOUSE uses* the PHILITE SERIES 25 troffer

Highly efficient 2 and 3 lamp fluorescent and slimline units are expertly engineered for fast installation and easy maintenance. Available with flat or curved Holophane Controlens®, flat or curved Alba glass, metal or plastic louvers, and Plexiglas shields as individual units or for continuous row installations.



SEND FOR COMPLETE DATA

*3,500 Philite fluorescent troffers, with Holophane 9015 Controlenses®, provide high levels of low-brightness illumination thruout the spectacular, new Lever Bros. headquarters offices.

® Holophane Co., Inc.

PHILITE

Ruby-Philite Corp.

32-02 QUEENS BLVD., LONG ISLAND CITY 1, N. Y.

Choose the Fuse Link That Saves You Most

Standardized

New KEARNEY Type K and T Made to Meet EEI-NEMA Standards

Developed in cooperation with EEI and NEMA to provide industry-wide standard fast (K) and slow (T) fuse links . . . *plus* providing such exclusive KEARNEY features as:

- **Threaded button terminals for true mechanical interchangeability**
- **Color-coded packages (silver for type T—gold for type K) to save time and confusion on the job**
- **Easy-to-use, "pull-out" package**
- **Greater accuracy and dependability**

or Specialized

Type 200 . . . with extra heavy surge and overload capacity

Type KS . . . with the same surge capacity as Type 200, but twice the overload capacity

Type X . . . specially designed for keeping transformers in service during heavy overloads

Type QA . . . faster fusing than Type X

KEARNEY

gives you a *COMPLETE CHOICE*

Whatever your fuse link needs . . . standardized or specialized . . . time-current curves and charts are available to help you work out your coordination problems.

JAMES R. KEARNEY CORPORATION
4224-42 Clayton Ave., St. Louis 10, Missouri
Canadian Plant: Guelph, Ontario

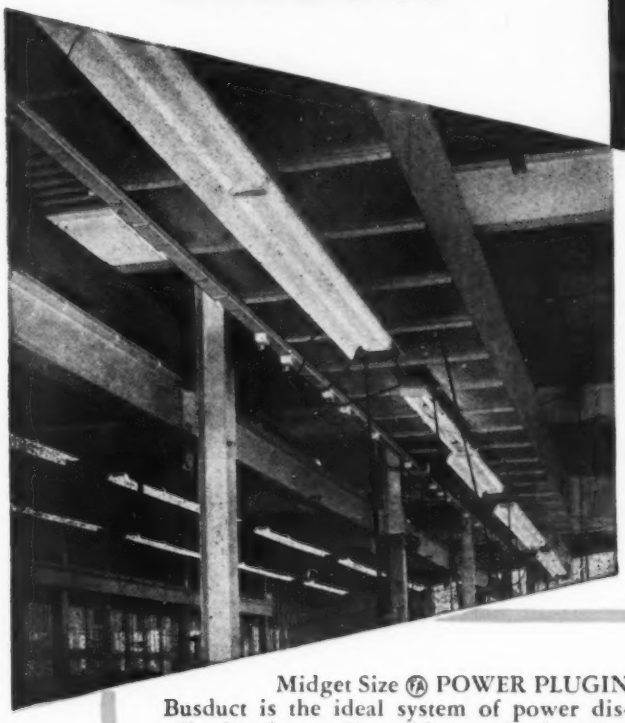
JAMES R. KEARNEY CORPORATION ST. LOUIS MO.

239

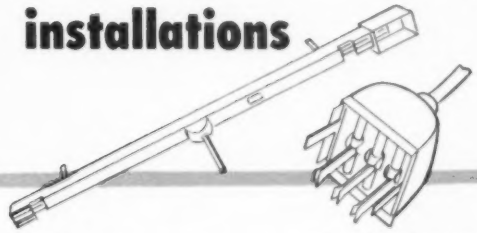
FOR BETTER CONSTRUCTION . . . FOR SAFER MAINTENANCE

MIDGET SIZE

FA POWER PLUGIN BUSDUCT



provides "Plug in and Go" Power for smaller installations



Midget Size FA POWER PLUGIN Busduct is the ideal system of power distribution for small machines and other similar plant equipment.

Underwriters' Laboratories approved, this modern system of power distribution provides 60 amp., feeder capacity for 2, 3 or 4 wire systems for ½ to 3 H.P., 240 volt motors, AC or DC with conventional type fuses and 7½ H.P. maximum for motors with dual element fuses.

The 2 and 3 conductor types provide 220 volts single phase or three phase power to motors, while the 4 conductor type provides single or three phase power for motors and 120 volts for machine illumination or small pump motors on return lubrication systems.

Midget Size FA POWER PLUGIN Busduct is only 3½ inches wide and 2 inches deep in size. It is available in five and ten foot sections with plugin outlets every twenty inches thus permitting machines to be moved in and out of production lines without slowing down or delaying operations. Special lengths and closer spacing of outlets are also available for application on production benches and equipment.

Contact your nearest FA representative, listed in Sweet's, or write for Bulletin No. 704, for further information on this economical, flexible system of power distribution.

Frank Adam Electric Co.

P. O. BOX 357 ST. LOUIS 3, MISSOURI

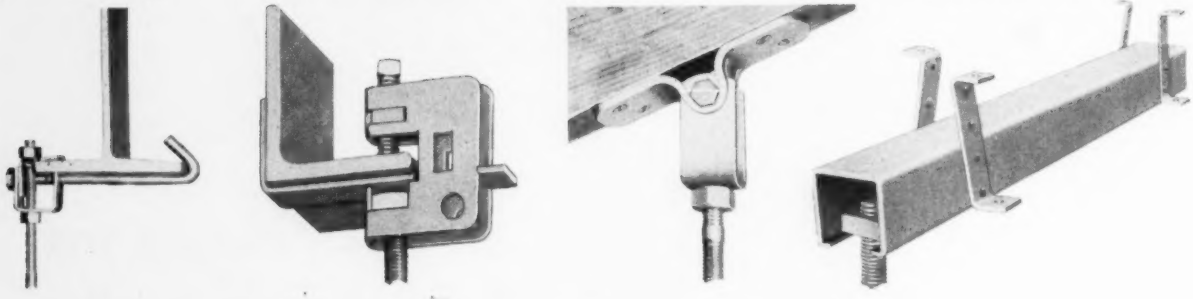
Our 61st Year

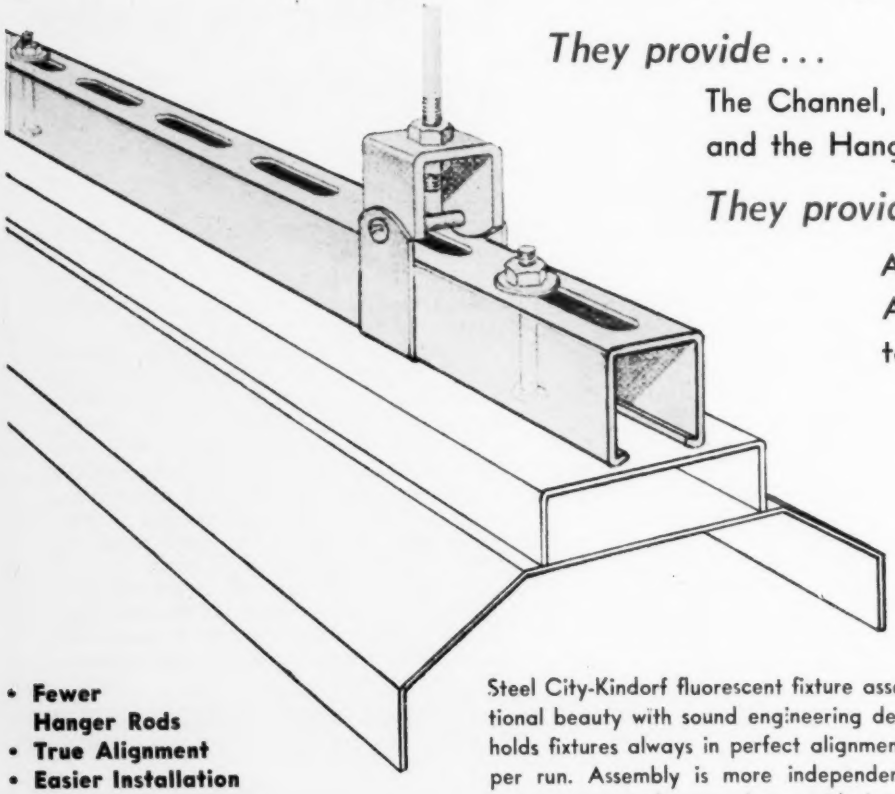
Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER

When Installing Fluorescent Fixtures
Better Jobs Quicker Are Assured
by using STEEL CITY-KINDORF Fixture Supports

They provide . . . **The Means of Attachment to . . .**

I BEAMS CHANNELS WOOD CEILINGS CONCRETE





They provide . . .

The Channel, the Hangers and the Hanger Rods

They provide . . .

An Easy Method for Attaching the Fixture to the Channel

☆

- **Fewer Hanger Rods**
- **True Alignment**
- **Easier Installation**
- **Easier to Re-lamp**

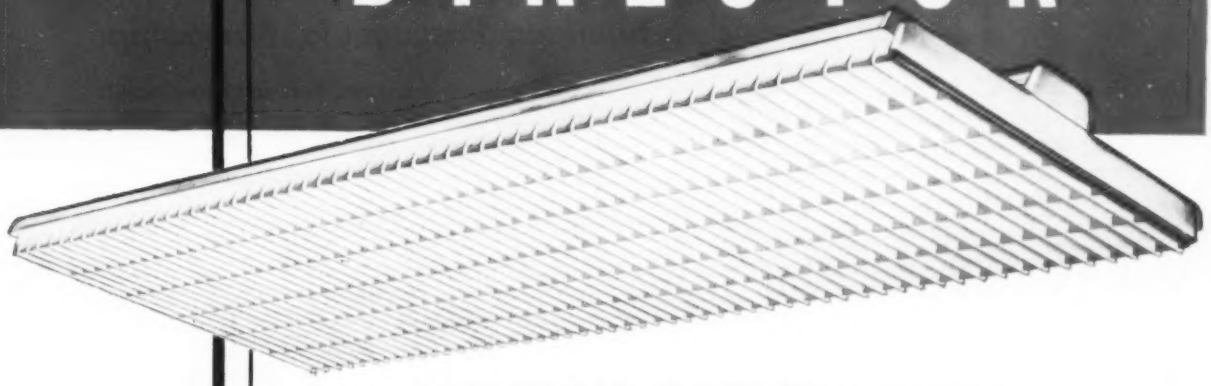
Steel City-Kindorf fluorescent fixture assemblies combine modern functional beauty with sound engineering design. The strong rigid channel holds fixtures always in perfect alignment, and requires fewer hangers per run. Assembly is more independent of ceiling irregularities, as hangers are easily spaced to avoid obstructions.

STEEL CITY ELECTRIC CO.

the thoroughbred of lighting that pays and pays!

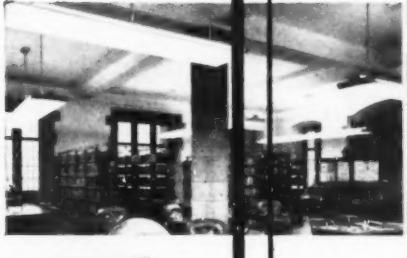
THERE'S ONLY ONE *Smithcraft*

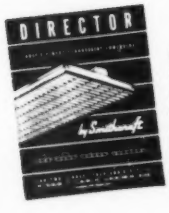
DIRECTOR



. . . a long-time lighting favorite that pays and pays. Pays owners and users in distinctive beauty and in superlative lighting characteristics. Pays contractors in excellent profits, in reputation . . . and in increased lighting business that a few outstanding Director installations will generate.

Where's the market for the Smithcraft Director. It's all around you! In stores, offices, schools, banks, public buildings . . . wherever you go. Show a man the difference between the lighting *investment* offered by the Director and an ordinary lighting *purchase*. He'll never settle for less. Make the Smithcraft Director *your lighting fixture* as thousands of contractors the country over have done. You'll be glad you did!





Ask us to send you our 8-page Smithcraft Director. The folder contains the results of comparative tests conducted by one of the nation's outstanding utilities . . . a leader in lighting.

Smithcraft
LIGHTING DIVISION
CHELSEA 50, MASSACHUSETTS

"A shipyard is a graveyard we need top quality

says **INGALLS SHIPBUILDING COMPANY,**
world-famous shipbuilder, Pascagoula, Mississippi

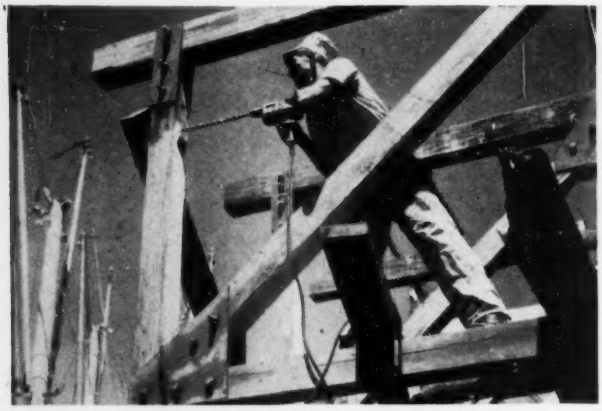
At this vast shipyard, Ingalls has 1200 welding machines, and 1000 welders to man them. The Amerclad Welding Cable is run at top amperage 16 to 24 hours a day. It is dragged over razor-edged steel scrap and battered under heavy loads. It comes into contact with fresh welds while they are still red hot, and it is constantly showered with flaming slag from the burners' torches.

Mr. C. A. Guynn is the Master Mechanic at Ingalls in charge of all maintenance and service. He says this: "We're an all-welded shipbuilder, and we can't stand lost production time due to faulty cable. Our cable has to withstand heat and abuse, and it has to be *flexible*. An extra-flexible cable like Amerclad is easy on the welder's wrists, and it lasts *twice* as long as cables that lack this feature."

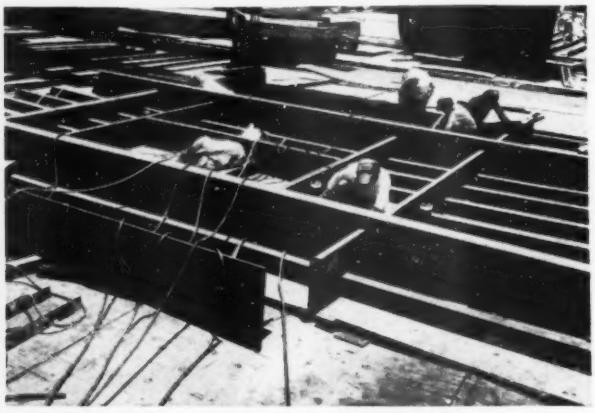
This great shipyard uses 60,000 feet of welding cable a year. But whether you use 60,000 feet or 600; whether you need a rugged cable for welding machines, power shovels or electric hand drills—there's a tough Amerclad design to give you the very best service life.

Send the coupon for more information about U·S·S Amerclad.

AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL CORPORATION, GENERAL OFFICES: CLEVELAND, OHIO
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS • TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA., SOUTHERN DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK



Ingalls uses lots of Amerclad for portable power tools. Here, it powers a half-inch electric drill used to bore 6-inch shoring timbers.



This is a typical shipyard operating condition. The cable is exposed to all kinds of weather, and dragged over sharp steel plates and beams.

A STANDARD CABLE FOR

▼ asbestos wire and cable ▼ shovel & dredge cable
▼ paper & varnished cambric cable
▼ aerial, underground & submarine cable

AMERICAN STEEL & WIRE DIVISION · USS · AMERICAN ELECTRICAL WIRE AND CABLE · UNITED STATES STEEL

U·S·S AMERICAN ELECTRICAL

for poor cable—
products like Amerclad"

EVERY SPECIAL JOB

▼ mold cured portable cord

▼ machine tool & building wire

▼ special purpose wire & cable

WIRE & CABLE

USS

SEND THE COUPON

American Steel & Wire
Room BE-103, Rockefeller Building
Cleveland 13, Ohio

☐ Please give me more information about Amerclad.
☐ I'd like to talk to your representative.

Name .....

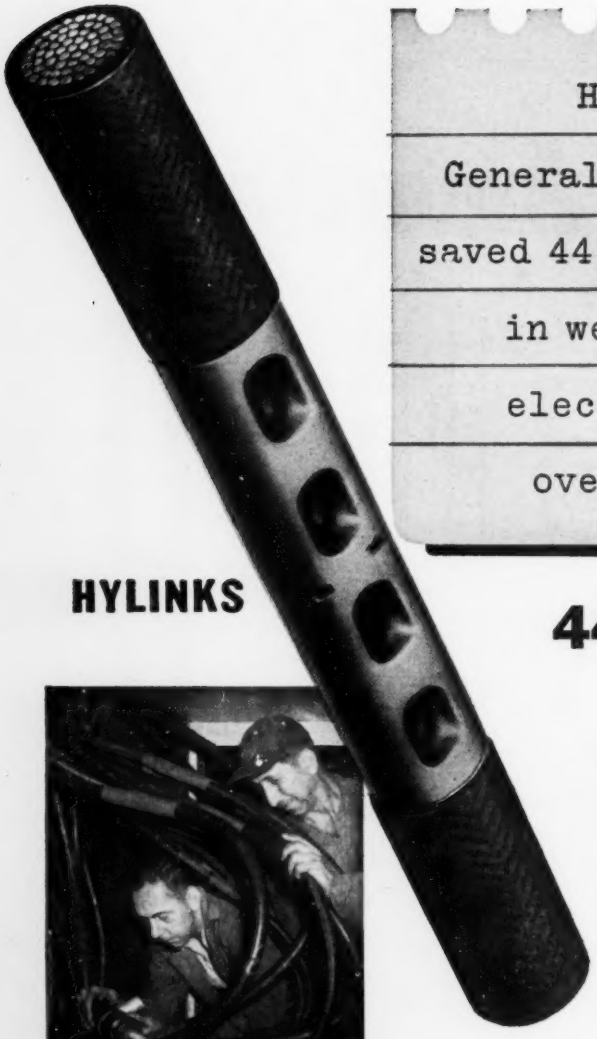
Firm .....

Address .....

City ..... State.....

UNITED STATES STEEL

How
General Aniline
saved 44 man-hours
in weekend
electrical
overhaul



HYLINKS

44 man-hours saved!

Annual factory shut-down for electrical overhaul and maintenance is a growing trend because it permits major work to be done more quickly, safely, cheaply, with minimum interruption of production.

During the last such overhaul at the General Aniline Works in Graselli, N. J.—Labor Day weekend—*one* of the *big* discoveries was the time saved by using Burndy Hydent connectors on their large power feeders!

More than 44 man-hours were saved on installations. The smooth surface of the connector permitted faster taping of the connection, since there were no protruding nuts or bolts to be covered. These connectors permitted the use of smaller junction boxes.

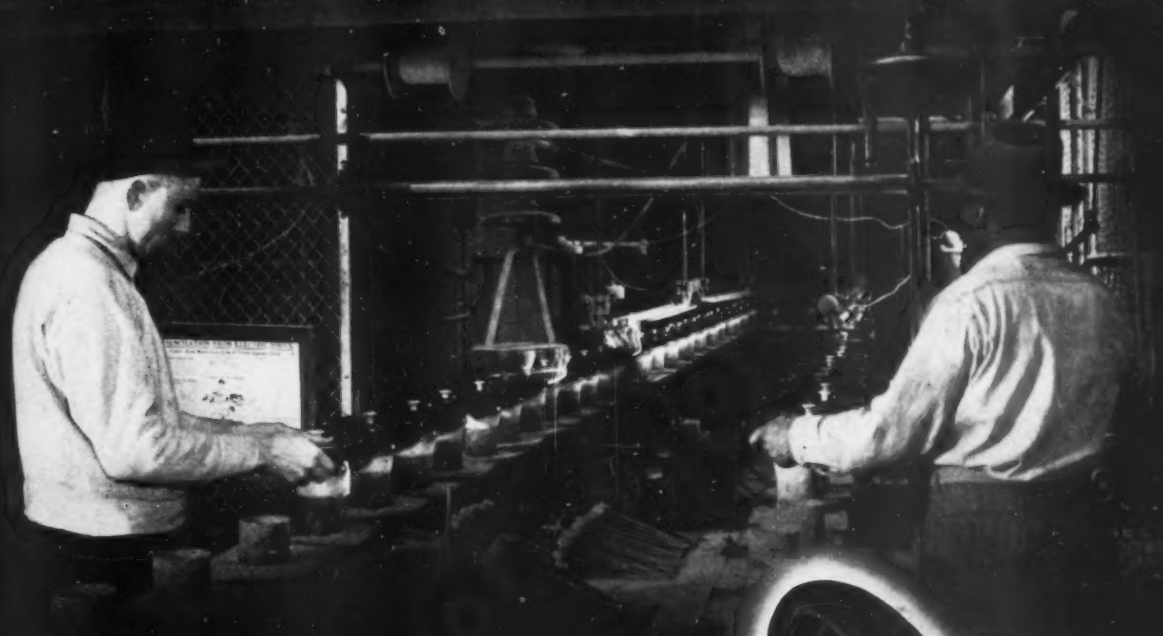
HYPRESS

Whether you're doing annual overhauls or year-round maintenance, Burndy Connectors and installation tools —in every size, type, and service—help electrical engineers and crews do an *important* job *better!*

BURNDY

32-18 BURNDY ENGINEERING COMPANY • NORWALK, CONNECT. BURNDY CANADA, LTD., TORONTO 8, ONT.

VICTOR *PURIFIED PORCELAIN* SUSPENSIONS
RUN THE GAUNTLET TO GIVE YOU GREATER SERVICE



Victor No. 924 (25,000 lb.) Suspensions undergoing high frequency and 60-cycle flashover tests on Victor-designed continuous testing machine.

Every Victor Suspension Insulator has to "run the gauntlet" through the flashover testing machine illustrated here. And every one must stand up under both high-frequency and 60-cycle flashover for a period of more than three minutes before being eligible for shipment. This stringent, individual testing, coupled with the greater toughness, uniformity and resistance to impact of Victor *Purified Porcelain* gives greatest possible protection for your lines! More reasons why Victor is the power man's best buy! For full data on Victor Suspensions, write for Bulletin No. 4.

VICTOR NO. 924
(25,000 lb.)
SUSPENSION

FREE BOOKLET gives you the full story on how Victor insulators are made—how and why *Purified Porcelain* was developed. Write us for your copy.

Specify
VICTOR INSULATORS!

VICTOR INSULATORS, INC., VICTOR, N. Y.

Low and High Voltage Pintypes • Suspensions • Guy Strains • Spools • Switch and Bus Insulators • Custom Designed Porcelain

swivelier *is Everywhere!*

Walk down any main street in any Southern city and you will find that three out of four modern stores are lighted by Swivelier universally adjustable lighting units.

You'll find Swivelier units in schools, hospitals, museums, homes, factories, offices and a hundred-and-one other places . . .

Everybody knows Swivelier means:

"Adjustable Lighting at its Finest!"

Write Dept. ES for complete catalog.

Look for the Swivelier Trademark
On Every Swivelier Product

swivelier
company inc.

Sales Office: 30 Irving Place
New York 3, N. Y.
Factory: 43-34th Street
Brooklyn 32, N. Y.

AGENTS: GEORGE E. ANDERSON CO., 1901 GRIFFIN STREET, DALLAS, TEXAS—GLENN H. ARNOLD, 2378 BEECHER ROAD, S. W. ATLANTA, GEORGIA

a natural for Christmas . . . and all year 'round

★ THE GREATEST DESK LAMP VALUE EVER OFFERED

PROGRESS

FLUORESCENT

DESK LAMP

for one or two 15W lamps

. . . . handsome chip-proof baked HAMMERTONE finish — choice of bank bronze or french gray ● extra long (8') cord and plug ● handy on-off switch ● convenient pencil lip ● no radio interference — equipped with condenser to eliminate noise ● packed in attractive, reshippable carton

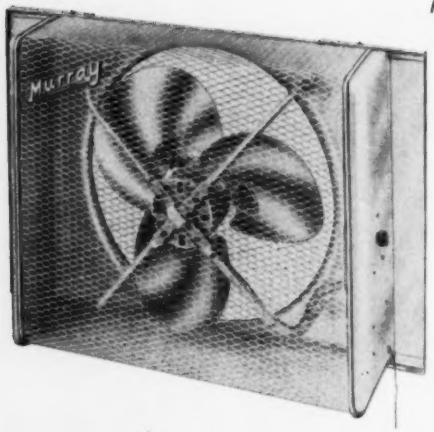
write today for bulletin DL-53

CASTOR AVE. & TULIP ST., PHILA. 34

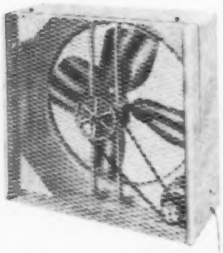
● ● ● ● ● PROGRESS MANUFACTURING COMPANY, INC.

APPROVED AND LABELLED BY UNDERWRITERS' LABORATORIES, INC.

Murray 20" Window Fan
Reversible or Exhaust—
Only, 1 or 2 speed

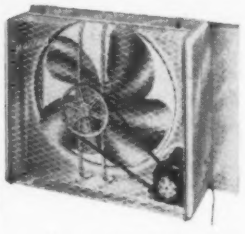


Murray 30" Window Fan
Reversible or Exhaust—
Only, 1 or 2 speed

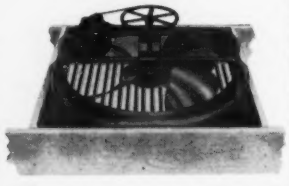


Murray fans

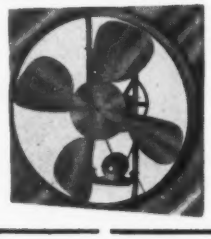
the line . . . with the South in mind



Murray 24" Window Fan
Reversible or Exhaust—
Only, 1 or 2 speed



Murray Attic Fan
Vertical Discharge



Murray Attic and
Industrial Fans
Horizontal Discharge

Murray 16" Window Fan
Portable room-to-room

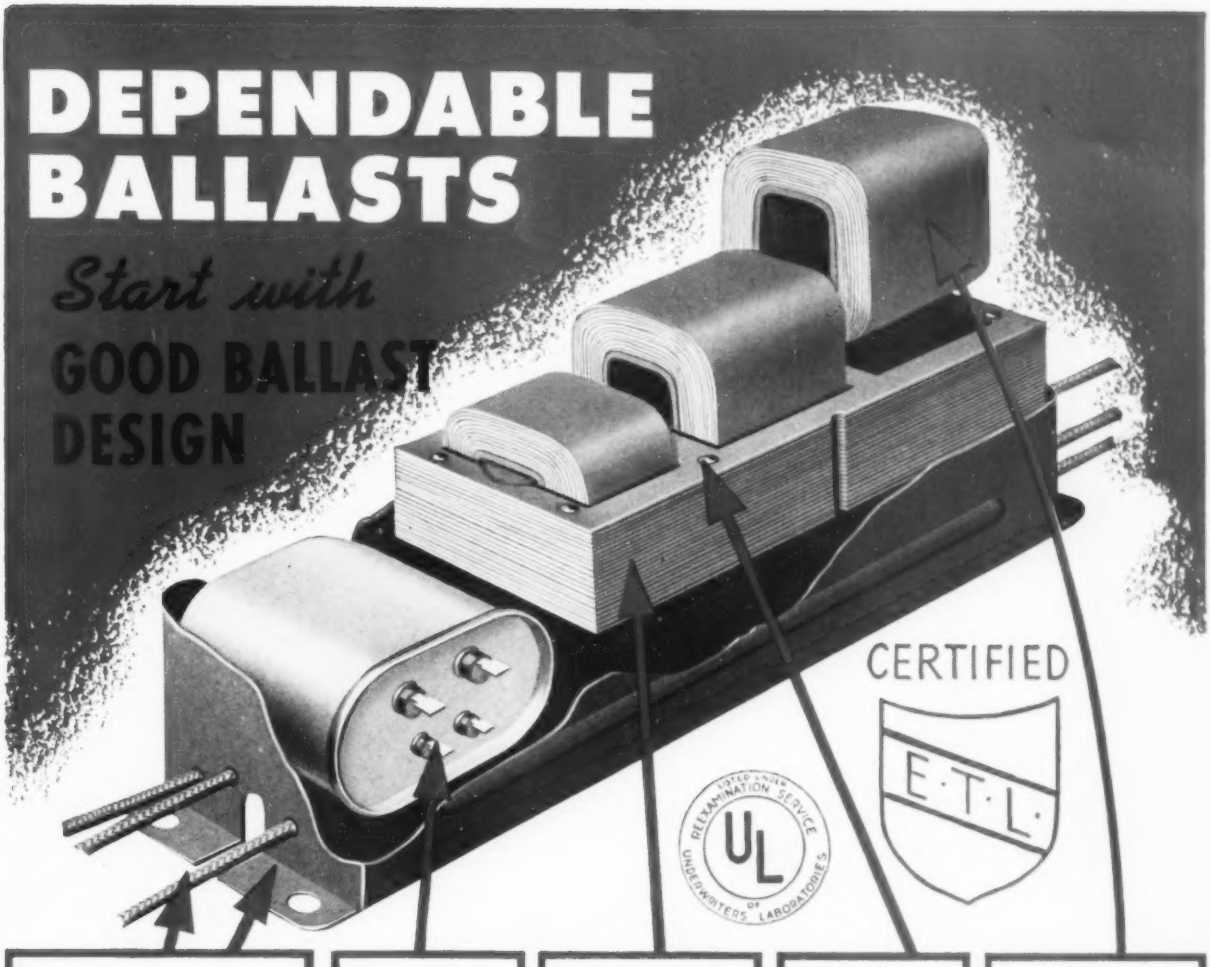
Murray fans are made in the South, with the Southern customer and the Southern dealer foremost in mind. Murray — and only Murray offers a complete line — a type of attic or window ventilating fan to fit every Southern home, every Southern pocketbook. Murray — and only Murray — offers a *complete* money-back inventory guarantee to its distributors. Murray — and only Murray — offers the best product, the best advertising back-up to Southern dealers. For full information on dealer and distributor franchises and free catalog, write . . .

Exclusive National Sales Agents for Murray Fans
H. C. Biglin Co., Inc.
177 Harris St., N.W.
Atlanta, Ga.

Murray Company of Texas, Inc.
VENTILATING FAN DIVISION • ATLANTA, GA.

DEPENDABLE BALLASTS

Start with GOOD BALLAST DESIGN



All Advance core and coil assemblies are completely enclosed in moisture resisting, dust-proof containers, die-formed or drawn from heavy gauge cold roll steel, thus affording sturdy, uniform construction. All containers are coated with a rust protecting, lasting black japan finish. Rubber covered cotton braided heat-resistant U. L. approved lead cable is firmly anchored to the coil leads. All external lead lengths are sufficient for easy installation without splices.

The capacitors used in Advance Ballasts for power factor correction and phase displacement are of highest quality construction. Rigid inspection and tests are conducted of all capacitors of prescribed ratings.

The core of Advance Ballasts is constructed of high-grade silicon steel laminations, stamped to close tolerances and annealed and treated to insure low wattage core losses. Objectional noise emanating from the laminated core and shell becomes almost non-existent by the unique-Advance method of precision stacking and riveting.

The Advance forced core design makes possible the proper placement of 8 rivets at the points of magnetic stress outside the flux path, thereby providing a most efficient core and shell assembly that insures positive low noise level.

All Advance coils are precision-wound on rectangular cores of high grade varnish-impregnated paper with quality annealed copper wire. Specially designed high-production multiple coil-winding machines insure firmly wound, compact coils of identical size, shape, weight and characteristics.

To insure rapid heat conductivity and the consistency necessary to dampen vibration and noises, a compound containing a high percentage of silica is used in each Advance Fluorescent Ballast. Complete and careful filling of each unit seals out moisture and increases insulation resistance, thus insuring quiet, trouble-free operation.

The WORLD'S LARGEST MANUFACTURER DEVOTED *Exclusively* TO THE PRODUCTION OF FLUORESCENT BALLASTS

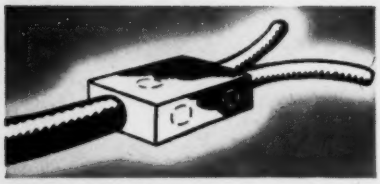
ADVANCE TRANSFORMER CO.

The Best Ballast Buy

CABLE ADDRESS: ADTRANS

1122 W. CATALPA AVE., CHICAGO 40, ILL., U. S. A.

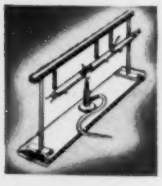
How to get longer life out of your portable cords and cables!



1 USE junction or distribution boxes for making multiple power connections in working places.

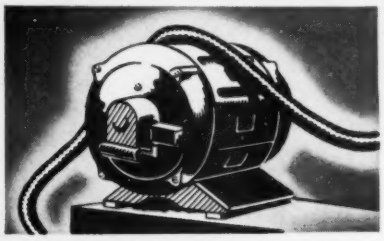
2 PROTECT cables with fuses or circuit breakers of the proper rating for the service. Make sure that circuit breakers will operate properly.

3 PROTECT cables from being run over by heavy equipment. Running over the cable a few times may not cause immediate failure, but may do internal damage which will shorten its life. If the cable must be run across an aisle, place boards on either side as one would for a hose. If it is in use for only a short time, it should be thrown over the truck.

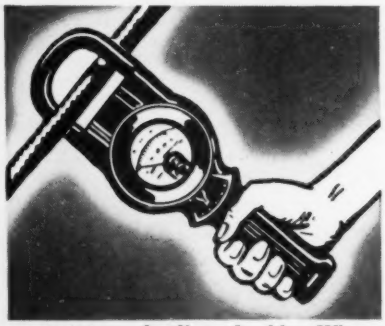


4 USE flame-resistant cables wherever possible.

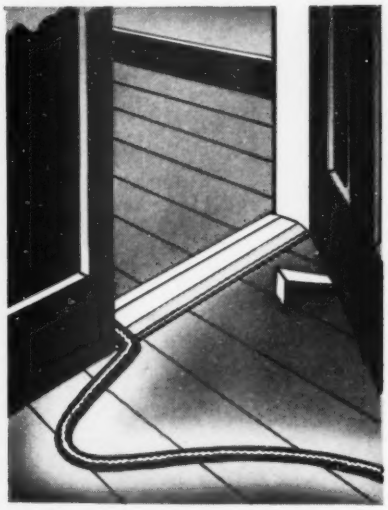
5 DO NOT have portable cords and cables running over steam pipes or other heat-transmitting equipment.



6 KEEP cables away from sparking motors and high voltage equipment. The ozone generated by sparking commutators attacks rubber jackets, causing cracking.



7 AVOID overloading of cables. Where possible, use I.P.C.E.A. recommended current ratings.

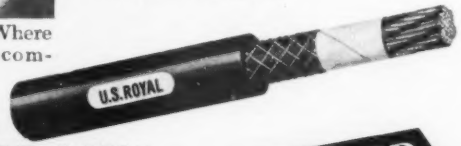


8 AVOID dragging portable cords around rough edges or sharp corners. Bruises and cuts hasten deterioration of the jacket. Never yank cords to remove kinks or loosen them when caught on a projection.

9 AVOID running portable cables on pulleys or drums too small for the size of the cable; observe recommended I.P.C.E.A. minimum diameters.

10 KEEP cords away from oils and greases. If they do get into oil, they should be wiped off as soon as possible. Avoid having cords lie in pools of water, chemicals or grease.

11 BUY cables that can carry the required current without overloading or overheating. They should be flexible (have sufficiently fine strands) for the intended use.



FOR FREE REPRINTS OF THIS PAGE, WRITE TO ADDRESS BELOW.

UNITED STATES RUBBER COMPANY

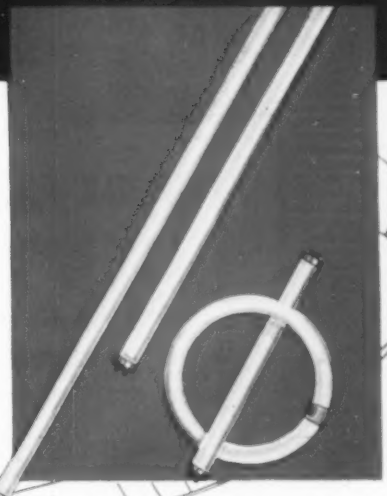
Electrical Wire and Cable Department

ROCKEFELLER CENTER • NEW YORK 20, NEW YORK

U.S.RUBBER
SERVING THROUGH SCIENCE

CBM Certified Ballasts are Tailored to the Tube

... to make your lighting dollar go farther



The heart of a fluorescent fixture is the Ballast.

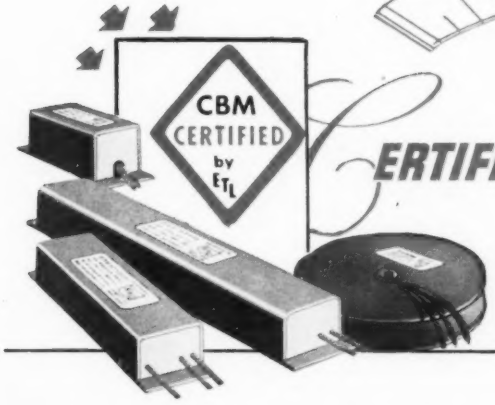
Best lighting performance is assured by accurately matching ballasts to fluorescent tube requirements.

CERTIFIED BALLASTS are so matched. Built to exacting specifications designated by the Certified Ballast Manufacturers,* tested, checked and Certified by ETL, CERTIFIED BALLASTS truly are "Tailored to the Tube!"

That's why CERTIFIED BALLASTS assure:

LONG LAMP LIFE — FULL LIGHT OUTPUT
LONG BALLAST LIFE — FREEDOM FROM OVERHEATING
QUIET, TROUBLE-FREE OPERATION

And that's why, today, the large majority of fluorescent fixtures for general lighting service are equipped with CBM Certified Ballasts.



CERTIFIED BALLAST MANUFACTURERS

**Nine leading manufacturers make CBM CERTIFIED BALLASTS.*

2116 KEITH BLDG., CLEVELAND 15, OHIO

CRESCENT

NEW IMPROVED GRAY

CRESFLEX

NON-METALLIC SHEATHED CABLE

CRESFLEX is the most suitable and lowest cost interior wiring system for all residential, farm and rural buildings. Here are the reasons why—

CLEAN OUTSIDE SURFACE. The outside is finished with a paint. On sizes #14 and #12, this paint is gray to prevent the marking of walls.

LASTING QUALITY. A rot-proof thoroughly saturated fiber-glass overall braid is used.

CLEAN INDIVIDUAL CONDUCTORS. A treated paper dam prevents saturant from reaching paper-wrapped conductors.

EASY WORKING, because paper Armor pulls off easily and the Thermoplastic insulation strips free and clean.

CRESFLEX is available from your ELECTRICAL WHOLESALER'S stock.

CRESCENT OVER 70 YEARS EXPERIENCE

WIRE & CABLE

CRESCENT INSULATED WIRE & CABLE CO.

TRENTON, NEW JERSEY

"No More Wrenches, Screws or Crimping for Me —

I USE TOMIC THINWALL CONNECTORS!

JUST TAP . . . OR PUSH 'EM ON!"

Pat. No. 2458276

No. 10—½"
No. 11—¾"
No. 12—1"

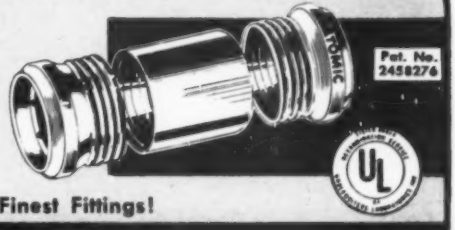
MUCH EASIER TO INSTALL!

and that's not all! . . . LOOK AT THESE OTHER TERRIFIC TOMIC FEATURES!

- PRE-FLEXED LOCK WASHER SLIPS ON TUBE WITH THE GREATEST OF EASE!
- MAKES SAFE, PERMANENT VIBRATION-PROOF 6-POINT GROUND AROUND ENTIRE TUBE!
- OK IN CONCRETE SLABS—PERFECT FOR CRAMPED OR CORNER LOCATIONS!
- DOES THE JOB BETTER, EASIER!

P.S. TOMIC COUPLINGS ENABLE YOU TO GO FROM HEAVY PIPE TO THINWALL —NO EXPENSIVE SPECIAL FITTINGS REQUIRED!

Most versatile coupling ever conceived—with Tomic, you can go from heavy pipe to Thinwall and vice versa—you can go from Thinwall to Greenfield or ANY type cable WITHOUT EXPENSIVE, SPECIAL FITTINGS. All connections screw together . . . will never shake loose. And with Tomic, you can snap tubing into couplings in corners or close quarters!



Write for Sample of TOMIC . . . Today's Finest Fittings!

TOMIC SALES & ENGINEERING CO.

Detroit . Michigan

The pattern of filament downlights conforms to the layout of the display cases in this store. This provides higher illumination on the selling spaces than in the circulation zones, resulting in greater attraction at the places where merchandise is appraised. This arrangement may sometimes provide greater economy than a lighting system which distributes its footcandles uniformly. However, it may not provide for future rearrangement of sales areas. Square and rectangular flourescent luminaires are used over several areas for emphasis and the suspended luminaires of modern design are an interesting element in the decorative scheme. Several types of lighting are built into the display fixtures.

Deluxe Cool White fluorescent lamps are employed in the louvered luminaires of this men's apparel store. They provide a familiar appearance to the colors of merchandise, similar to natural daylight. The pattern of lighting units is changed to crosswise rows at the rear to give emphasis to this area where the higher priced merchandise is sold. The total effect of the luminaires, the brightness pattern, color schemes and appointments is that of a pleasant, dignified, masculine environment.

Lighting:

◆ AMERICA'S tremendous demand for consumer goods today challenges the individual merchant to discover the methods for converting it to his own advantage. This, of course, means a choice of merchandising techniques which will meet and surpass competition and improve (or at least maintain) his sales volume. Sales volume is always susceptible to sudden change and it will not be sustained by depending on yesterday's successful methods. A store—any store—will certainly get a dated look and lose business if it fails to attract customers and sell a requisite volume.

Modernization of goods, facilities, and services is the key to successful merchandising today, as it has always been. Surveys made by trade associations indicate that lighting is rated at or near the top in modernization plans for most stores. Furthermore, alert merchandisers recognize that carefully planned lighting is a dynamic factor in moving goods. Its influence results from these established functions: (1) good lighting can attract attention to the store and to areas and items within the store; (2) lighting can give merchandise sales appeal and enable customers to see details clearly and quickly; (3) lighting is one of the most versatile mediums at the command of the designer for developing an atmosphere appropriate for the type of store and its merchandise.

Light applied in these ways so improves store property that it must be considered a sales investment—not an operating expense. The question that must be answered for every store is whether or not

---

The authors are both associated with the Application Engineering Department General Electric Co., Lamp Division, Nela Park, Cleveland, Ohio.

a productive sales facility

by K. A. Staley and W. S. Fisher

this investment will, in fact, produce increased profits. Obviously, sales increases cannot always be definitely attributed to one factor in an individual store, since there are many other influencing factors. However, we know that increases of 20 to 40 per cent in dollar volume are not unusual for stores where the only modernization has been improved lighting, planned along sound, functional lines.

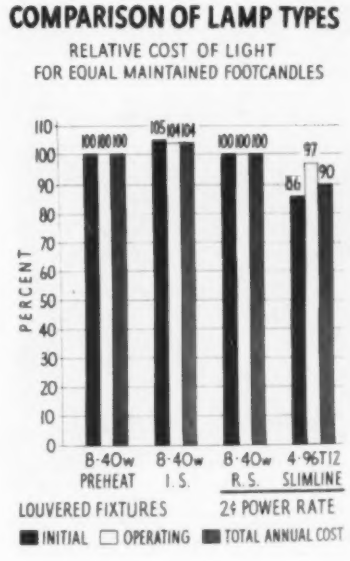
For example, in a retail hardware store where factual records were kept, new lighting is credited with the increases in sale of these products: tools, 17%; small appliances and gifts, 34%; paints, 26%; kitchen wares, 31%; lighting fixtures and equipment, 60%. A ladies' apparel store reported that sales had increased 31% after new lighting was installed and that it was necessary to hire additional sales personnel to take care of the higher volume.

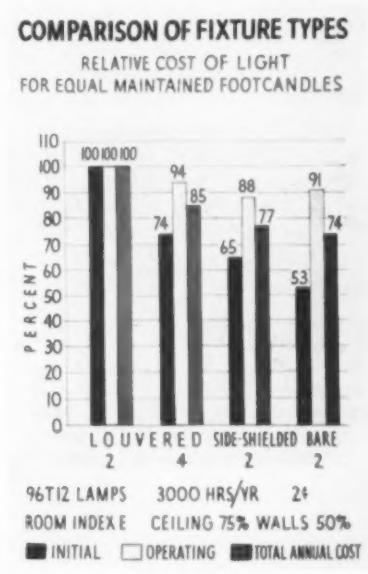
Naturally, every store owner wants to get the most for the dollars he spends for lighting. The data presented here may be helpful as a guide for planning a lighting system for a client. The tables included analyze the cost of lamps, fixtures, labor, and power. They are in a comparative form and they show approximate relationships. For specific answers to questions about an actual installation, the reader is referred to the Barr-Amick Paper in the *Illuminating Engineering Society's Journal*, September, 1951, or to the I.E.S. Lighting Handbook.

A word of caution: While initial cost of a lighting system is an important factor, the total annual owning and operating cost is the most significant figure.

The type of fluorescent lamp used is a basic cost item. The chart headed "Comparison of Lamp Types," compares relative initial, operating, and total annual cost of lighting systems using 40-watt preheat, 40-watt instant-start, 40-watt rapid start, and 96T12 slimline lamps.

The 96T12 slimline system offers the greatest economy. Maintenance is easier, too, with fewer lamps, lamp holders, ballasts, and luminaires to clean, relamp, and keep in running order. Also, appearance is usually better with longer lines of light.





Where four foot lamps are necessary or desirable, the rapid start lamp is the best choice; costs are on a par with preheat lamps and maintenance is again simplified by the absence of starters and starter sockets.

The other chart, headed "Comparison of Fixture Types," compares the cost of several luminaire types using 96T12 slimline lamps

Table I—Daily Owning and Operating Costs of Typical Supplementary Lighting Equipment

Equipment	Lamp Used	Approximate Daily Owning and Operating Cost
Spotlights	150w R-40	6 cents
	300w R-40	10 cents
	150w PAR-38	6 cents
Showcases	1-64T6 per 6-foot case	4 cents
Wall Cases	40-watt T-12 fluorescent	4 cents per 10-foot length

Side shielded luminaires are being used in many stores. These units have plastic or glass side panels, a deep "V" channel between lamps, but no lengthwise shielding. Maintenance is about as easy as with bare lamp units, since there are no louvers to remove when changing lamps and only smooth unobstructed surfaces to clean. The cross view of the luminaires is not distractingly bright, yet the luminous side panel contributes to a stimulating atmosphere and the store interior appears bright and attractive.

Supplementary lighting built into the display area insures that the customer's attention will be on the merchandise. A fluorescent valance extended about 15 inches from the wall provides a smooth, luminous background for sport coats. Spotlamps in gimbals which permit adjustable aiming provide top attraction for the items displayed at the column. This display, located near escalators, has been credited by the store management with materially increasing traffic for this department.

in the deluxe fluorescent colors. While the initial cost of bare lamps is substantially lower than for louvered luminaires, there is less difference in operating costs which brings the total annual costs somewhat closer together. In addition, lowest over-all cost may not necessarily represent the best value.

For example, luminaires for bare fluorescent lamps are not in keeping with the atmosphere or merchandise in most stores because of the need for more finished ceiling appearance and minimum distraction from the display and selling zone. Side shielded luminaires are more comparable in initial cost to bare lamps and quite close in overall figures. They present better appearance in stores than bare lamps, yet maintenance is simple due to the absence of cross louvering. This type is popular in some of the high traffic stores.

In general, the better quality systems mean less distraction from the merchandise to the overhead area in stores. Indeed, for the creation of a successful selling environment there should be a minimum of competition for attention with the areas for display and selling. As an objective in lighting design contrast should be developed in the display and selling area to enhance visibility of goods, insure attention for additional items, create dramatic display, and induce shoppers to circulate throughout the store. Accomplishing these functions effectively generally requires supplementary lighting, either built into display cases or accurately controlled from the ceiling or other appropriate location.

Supplementary lighting

Good supplementary lighting may easily justify an expenditure equal to that for the general lighting. It supplies the impulse selling power to displays of merchandise as seen from the street in open front stores. In interiors it adds brightness to the vertical surfaces of objects and makes them visually vital and eye-catching . . . which stimulates impulse buying.

Table I shows approximate daily owning and operating costs of several types of the simpler forms of supplementary lighting. A simple

(*Please turn to page* 108)

Relighting a department store

Problems increase rapidly when job must be done while sales work is in progress

by Lyle E. Johnson
Engineer, Juneman Electric Company
Birmingham, Alabama

◆ PROBLEMS and plenty of them usually occur in remodeling and merchandising at the same time and in the same approximate place.

Juneman Electric Company found this especially true in a recent conversion job for Loveman's of Birmingham, one of the South's largest department stores.

The job called for replacing overhead incandescent indirect lighting with recessed incandescent down lights over the entire second floor —34,000 square feet—without disrupting regular sales service.

We decided on the starlight lighting effect after field trips to several major cities in search of something new and different. This type lighting has been employed previously in small areas but, to my knowledge, not as a complete installation.

This article details some of the major problems encountered in the Loveman's installation and how they were solved.

A major part of the work was done from rolling scaffolds, in most cases operating at about a 12-foot level.

We worked one bay at a time, approximately 24 ft-by-24-ft, with adjacent bays in actual sales service. It was often necessary to fasten supports into the concrete beam structure. Because the reverberating noise from the electric hammers would be very objectionable, all cutting and drilling work was done before the 10 a.m. store opening. Actual installation of the fixtures and interconnecting of the circuits were done during store hours.

Approximately 620 recessed down lights were used in the complete installation. These were spaced 6 by 6 feet but varied slightly due to columns and general building construction. This gave an average of 35 foot-candles in comparison to the 6 foot-candles of the old system.

The work was installed in a suspended metal lath and plaster ceiling which had been constructed 20 years previous. The plaster was brittle and in some cases dislodged in two- and three-foot sections. To overcome that difficulty, a special hole saw was designed to accommodate 1½-inch wide band saw stock. This gave a fit within ⅛-inch tolerance, which was necessary to decrease dust filtration from the suspended space to the merchandise after the job was completed.

The particular down light fixture that was installed was designed for

Soft, complete and inviting is this lighting approach to designers' rooms at Loveman's. Special blue lighting inside the rooms is protected by the drapes. Even so, note the glare from chandeliers inside. The recessed lamps eliminate all glare.

use with a plaster frame in new construction. This posed a difficult problem in the old ceiling as replastering was not to be done.

The final method of supporting these units allowed for subsequent relamping and kept the fixtures in tight alignment. It consisted in using various lengths of ¾-inch plastering channel iron. These were clamped to supporting angles and channels of the metal lath ceiling and bolted to the aligning slots of the fixtures.

In many instances, 1¼ to 2-inch main angle supports were encountered in the direct alignment of the rows of fixtures. These had to be cut and resupported from the concrete slab above the ceiling. Again, due to the brittle plaster, various inspectors were called from time to time to determine if the new supports were satisfactory. It was necessary to furnish the owners a certificate of approval on these supports after the job was completed.

Various air conditioning ducts were encountered during the installation. In several instances the ducts had to be cut to allow the fixtures to be recessed into them. Some of the main ducts were 5-feet wide with clearance of from 2 to 3 inches between the lower side of the ducts and the finished ceiling. This posed a particularly mean problem in getting the circuits to the units.

This was accomplished in general by using a special metallic hose of ⅜-inch diameter in fishing in the asbestos insulated fixture wire through the side of the ducts.

The decision to use incandescent lighting instead of fluorescent was due to the necessity of proper color rendition on various apparel in Loveman's new de luxe salons.

This installation increased the air conditioning load on the floor about 40 tons over the existing load. This condition was corrected by the installation of individual package unit air conditioners. These back-

The evenness and cross lighting pattern of this department store installation are indicated by the shadows of the store's fixtures. Note the fixture installed in the air diffusing unit at left, preserving the pattern of the fixtures.

Of all departments, shoe salons must have adequate, even light at floor level and the effect is obtained at Loveman's with the recessed incandescents. Trough lighting accentuates wall displays without clashing with the overhead output.

fed into the existing duct system to supplement the main plant.

In the fur salon it was found that neither the clear nor inside-frost lamps gave the proper blue sheen to the section. This was overcome by dipping clear lamps in a photographic blue solution. This solution is practically invisible but it gave the desired effect. (My experience as an amateur photographer was of benefit there.)

To handle the 92 kilowatts of lighting under the new installation (the previous load was 22½), it was necessary to route new feeders from a basement vault through various wind chambers and up elevator hatchways to make a concealed installation. The addition of two 40-circuit panels was necessary, in addition to the existing panels, one on each end of the main sales areas, to handle the added load.

Although it doesn't come under the heading of "major problems," we ran into a rather ticklish—and humorous—situation at Loveman's.

In the process of installing a very expensive imported glass chandelier in the main portion of the designers salon, it was found that each group of crystals had a serial number indicating where it was to be placed on the fixture. These crystals had been unpackaged and placed in their approximate place of assembly on a table.

While our crew was out, a store official ordered the table cleared for more sales space. When we returned, we were handed two neat boxes containing the crystals—well scrambled. The unscrambling required 12 hours!

In addition to the second floor remodeling, Juneman has rewired and relighted under-balcony displays on the first floor and installed an unusual exterior floodlighting system, using the new C-56 100,000-candlepower lamp to wash the limestone

(Please turn to page 108)

This exquisite designers salon called for intricate lighting installation. The resulting consistency is evidenced again by the shadow pattern of the furniture. The recessed dome ceiling meant realigning the fixture pattern.

Light-conditioned homes attract

◆ A FOUR-WAY promotional program for light conditioned homes, sponsored by the Florida Power and Light Co., in which manufacturers and their wholesale representatives, electrical contractors, and home builders have co-operated, has met with such outstanding success in several Florida cities that it has received national attention. Although this has been a carefully nurtured co-operative effort, the program can be readily adopted by the individual electrical contractor working with home builders.

Florida Power and Light has kept a careful record of the results obtained since the program was started, showing that 78 homes have been completely light conditioned in the one-third of the state the power company serves, with 175 in the planning and construction stage. By the end of this year it is expected that at least 250 Florida homes will have been given light conditioning treatment.

Total wattage installed in light conditioned homes constructed thus far ranges from 2765 to 5600 watts compared with approximately 1500 in the average home that has not been light conditioned. The approximate additional cost of complete light conditioning ranges from $150 to $250 for the extra wiring and fixtures installed.

At the beginning of its promotional program in 1951, Florida Power & Light borrowed from a national manufacturer of residential lighting equipment eight large and colorful display boards equipped with a complete set of residential lighting fixtures approved for light conditioned homes, including valance lighting, these having been rotated among the power company's 30 district offices. The public was invited to attend, also home build-

Florida Power and Light's four-way promotional program on light-conditioned homes has certainly succeeded in making the public home lighting conscious. The lighting conditioned homes opened to the public have been visited by thousands, and records indicate that adequate lighting is being installed in some 250 homes in the area served by the company. Light conditioned homes generally include a wattage of 3,000 to 5,500 as compared to 1,500 in the average new home. The photos on these pages show some of the homes opened to the public by Thompson and Lee, of Ft. Lauderdale; R. E. Sigmund, Bradenton; and Martin and Paul Paver, Sarasota.

thousands in Florida

ers and electrical contractors. A booklet titled "See Your Home in a New Light," containing 22 lighting recipes, was given to every visitor. Up to the end of May, this year, 46,000 of these booklets had been distributed, indicating the great public interest in better home lighting. During the same time 3,000 light conditioning tape measures were also handed out.

A second step was the purchase from a manufacturer of lamps of six sound movie films titled "Father Sees the Light," which were used by the power company's service and sales representatives to show to small groups. Home builders and electrical contractors were invited to bring prospective clients to these pictorial demonstrations.

Tangible results noted

Typical of the outstanding results achieved in this campaign is the experience at Sarasota, where the Paver Park Estates recently opened a light conditioned home. More than 6,000 Sarasotans, attracted by newspaper and radio advertising, visited the home. Three homes were sold the first day by Martin and Paul Paver, the builders. Wiring and fixtures were installed by Terrell Electric, and electrical appliances by Cook-Stem, both of Sarasota.

A two-bedroom home was equipped with more than 50 lighting fixtures. Equipment included an electric water heater, range, refrigerator and fuel oil wall furnaces. Even with these added electrical features, the houses are being built to sell at under $15,000. So encouraging was the public response to the first demonstration of a light conditioned home that Paver Park Estates immediately contracted for four to be similarly equipped and announced that it will build 95 others, all light conditioned.

The first light conditioned home completed in Sarasota was built by S. C. Hinote last year, with the

(*Please turn to page* 107)

Two-pronged campaign

House-to-house canvassing sells lighting, builds load

by Baron Creager

◆ WITH SUMMER at an end the program of the West Texas Utilities Company called for renewal of lighting promotion, this time with the various local sales staffs making a door-to-door cold canvass, offering householders a specially ordered floor lamp that mounts a 500-watt medium bi-post bulb.

For this promotion the West Texas Utilities Company ordered 2,000 of these floor lamps, to be apportioned on a quota basis among local offices in the territory that extends from the Red River to the Rio Grande. The order was not a gamble for similar floor lamps were sold in quantity ten years ago and customers were pleased.

The modern version, which retails for $29.95 and has the appearance of a conventional lamp, is highly praised by users and company factors. The latter say the lamp gives 15 to 20 more foot-candles of light throughout a room, that at a distance of five feet it produces 50 foot-candles and shadows are minimized. Summer promotion is not practical because of accompanying heat production.

In San Angelo, Texas, where Carl W. Piel, lighting supervisor, had a quota of 440 of the lamps to dispose of by December, previous company experience with the lamp indicated expectations of two sales in every five calls.

"Although not here at the time of the previous promotion with this lamp ten years ago," said Piel, "I do know there are many owners who think it is the grandest lamp they ever owned. Once an owner has used the lamp several days, it is almost invariably a sold item.

"Our procedure is to carry the lamp along on a cold, door-to-door canvass. If we can leave a lamp on demonstration for three or four days, a sale is almost certain to result. For if the customer has not definitely decided to buy the lamp when we call for it, comparative darkness of the room after the lamp is removed makes a sale.

"That is the history of previous promotion of approximately the same floor lamp and there appears to be no reason why history should not repeat itself."

The large, bi-post bulb has the usual life of 1,000 hours and can be replaced for $2.50, plus the 31-cent excise tax. It can be burned at the rate of 2½ cents for every two hours of operation, according to Piel.

Another lighting and load-building promotion of this company produced sales of 107 domestic, all-aluminum, weather-proof floodlights in one month last spring.

Floodlights also promoted

"We used the same procedure in this campaign," Piel relates, "in that we selected a certain section of San Angelo and worked both sides of the street. We were especially successful in the regions where floodlighting was not installed when the residences were built.

"In our favor there were and are several factors arguing for floodlighting, especially in summer. In addition to the usual safety factors, there is the popularity of the summer lawn party at night in San Angelo. Then, because it is too hot for much activity in the daytime, playtime for children is at night and our portable or stationary floodlights provided comfort and safety for the occasion.

"A certain criminal element of San Angelo also helped us sell floodlighting. Like most communities of size, San Angelo has its epidemics of prowling, with prowlers frightening householders, especially in the spring and summer.

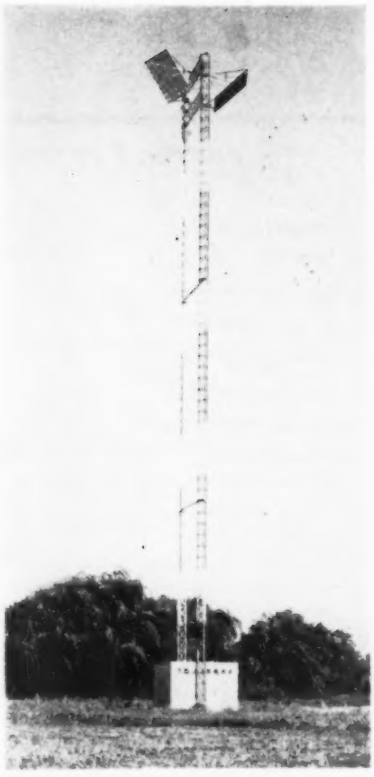
"In nearly every instance in which a prowler alarms a household the event becomes known throughout the neighborhood almost instantly and apprehension is widespread and semi-permanent. Instances of prowling are rather faithfully reported by the newspapers, too.

"We reasoned with accuracy there would be much less sales resistance to our floodlighting campaign in the neighborhoods disturbed by prowlers. So we watched the newspapers closely and, upon a report of a prowler in a neighborhood, we would immediately pick that neighborhood for our next effort with floodlights. By following that practice we sold many floodlights."

A third type of lighting promotion was planned by the West Texas Utilities Company, specifically for

(*Please turn to page* 106)

Carl A. Piel holds 500-watt, bi-post bulb used in floor lamp shown, which comes in finishes of bronze, Flemish and silver. Also shown is one type of portable floodlight sold in door-to-door campaign.



Microwave relay station of the type being installed for the Middle South Utilities. Passive reflectors at top of tower direct signal to neighboring relay stations.

Microwave communication network will improve system operation

◆ A GROUP of five large electric power utilities companies in the south central states have announced the purchase and initial construction of an extensive microwave relay system. The complex radio communications network, reported to be the largest (in terms of channel miles) of its type in the world, will extend into three states, Louisiana, Mississippi and Arkansas.

When completed, the system will facilitate supervision and control of electric power distribution for consumers served by Gulf States Utilities, Inc., and Middle South Utilities, Inc. The latter organization includes the Louisiana Power and Light Company, Arkansas Power and Light Company, Mississippi Power and Light Company, and New Orleans Public Service, Inc.

William Brewer, manager of Arkansas Power's Relay & Communications Department and communications coordinator for the Middle South Utilities group, said that "turn-key" contracts for the entire system, valued in excess of $500,000, have been awarded to Motorola Communications and Electronics, Inc., following lengthy engineering investigations, surveys, and receipt of competitive bids.

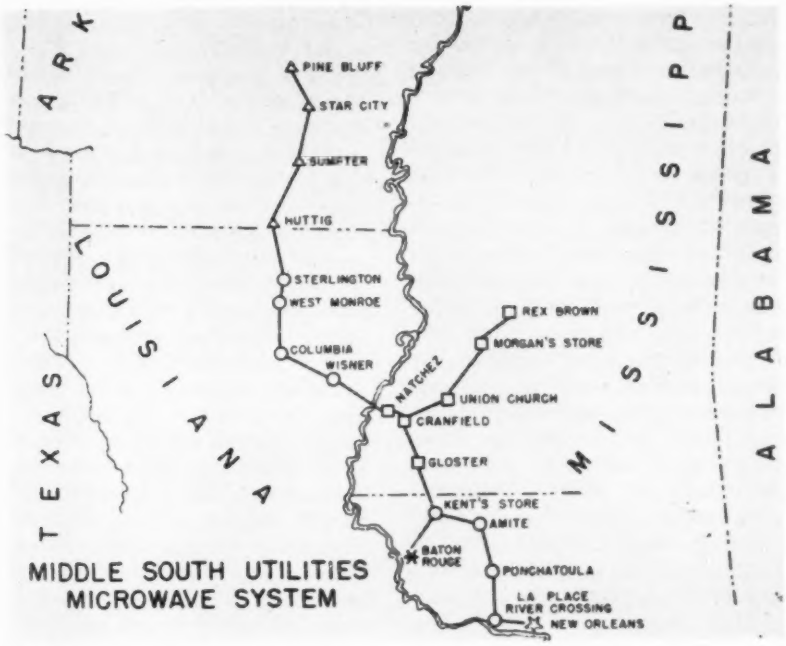
The 490 mile system will consist of 20 stations including 16 repeater installations and 4 terminals extending from the system dispatcher's office of the Arkansas Power and Light Company in Pine Bluff, Ark., down to the New Orleans Market Street Station of New Orleans Public Service. Two stub circuits will extent from the main trunk to tie the Jackson, Miss., Rex Brown Steam Electric Station of the Mississippi Power and Light Company and Baton Rouge station of Gulf States Utilities into the system.

The 24-channel basic equipment to be installed will ultimately provide 11,760 channel miles. Initial channel utilization plans call for approximately 8,000 operating channel miles of private line, party line, teletype, audio frequency carrier for telemetering, supervisory control, and mobile radio control circuits.

The private line circuits will be employed for executive and inter-office business. Party lines will provide system supervision and operational communications. Teletype circuits will tie administrative offices together for performance of routine inter-office business. The audio frequency carrier channels will provide telemetering facilities for complete distribution system surveillance.

Tie line and generation indica-

(*Please turn to page* 105)



The microwave communication system being installed for Middle South Utilities, interconnecting Louisiana Power and Light, Arkansas Power and Light, Mississippi Power and Light, New Orleans Public Service, and Gulf States Utilities, will provide 24 channels and a total of 11,760 channel miles. The circuits will be available for private lines, teletype, telemetering, and supervisory control.

The 1953 Electrical Code

a special report

This is Part 2 in a series of articles discussing the changes in the National Electrical Code that will be incorporated in the 1953 edition of the Code that will be available to the electrical trade this fall. Mr. Segall, the author of this discussion, is a well-known consulting electrical engineer. He is the author also of the popular illustrated explanations of the National Electrical Code, called *Electrical Code Diagrams*. Other articles in this series will appear in following issues until all the changes have been discussed.

by B. Z. Segall
Consulting Engineer
New Orleans, La.

◆ SECTION 4179 of the 1951 Code permits the installation of conductors directly to a fixture without the use of a box, so that the 1953 Code will show a reference in Section 3007 to this Section 4179 in addition to the present reference to Section 3369. This Section 3007 will also include in the 1953 Code the requirement for using boxes wherever Type MI (mineral insulation) cables are being installed.

Similarly, the requirements of Section 3008 will be revised to include the use of Type MI cables. The use of the 1/16-inch thick steel plate for protection of Type MI cable installed in a notched stud or joist will be required by a revision of Section 3010.

It has been felt that the last sentence of Section 3018 has been too vague as to its intent, particularly as concerns the neutral conductor. The 1953 Code wording of this section will definitely clear up the point as to whether or not the neutral must also be subdivided in those installations requiring two or more conductor enclosures for a large capacity circuit. It will definitely state that each enclosure must contain a neutral.

There was some question as to the applicability of the requirements of Section 3020 to those small fan systems used for ventilating kitchens, etc. These units seemingly are in violation of some of the requirements of this section. Since these integral fan systems have a UL approval for the entire system it was felt that an additional note was required to point out that the general requirements of this Section 3020 would not apply.

Article 310—Conductors

The table of Section 3102 has been revised to include three new types of conductors. Type RUH is a general use conductor having a heat resistant latex rubber insulation good for a maximum temperature of 75°C. The Type RW-RH is a combination insulated wire which permits the conductor to be used at a maximum temperature of 75°C in dry locations, but only at a maximum temperature of 60°C when installed in wet locations. The type RHW has an insulation which permits 75°C maximum temperature in either wet or dry locations.

Underwriters' Laboratories, Inc., has made an extensive study of the flexible cords and fixture wires now in use. They have simplified the designations of many of these and in general have brought their standards in line with present day materials. For one thing, insulation thicknesses are referred to in the 1953 Code by a single number, thus "1" represents 1/64-inch, "2" a 1/32-inch and so on. Thus instead of a RF-64, the 1953 Code will show a RF-1, and so on for the other types.

In addition the new "RF-2" and the "FF-2" designation will apply to both the code rubber insulation and to the latex rubber insulation, so that the present types RUF and RUFF will be eliminated from the 1953 Code.

Two new general types of fixture wires will be recognized in the 1953 Code. Both are rubber covered heat resistant rubber. Both will come in 1/64-inch and 1/32-inch insulation thickness. The first will be the type RFH, and the second, with flexible stranding, the Type FFH. The RFH-2 and the FFH-2 will designate both the heat resistant rubber insulation and the heat resistant latex rubber insulation.

Section 3102b has been revised to approve the use of Type MI cable in wet locations.

There has been many requests for a definite Code recognition of a direct burial cable. A second paragraph has been added to Section 3102b recognizing two general types of direct burial cables. Type USE, the presently recognized service entrance cable, and a new type UF which must have over-current protection, are the two types recognized. This new paragraph also spells out in detail some of the installation requirements for single conductor cables, requiring them to be in the same trench or raceway and to include the neutral conductor in this trench or raceway, for any specific service, feeder, subfeeder, or branch circuit. Even though these are approved for direct burial, there may be some installations which will require additional mechanical protection, and this section provides for such protection when required by the Code enforcing authority.

Section 3104 has been revised to permit the use of solid wires in

Type MI cables, No. 6 and larger.

The use of conductors in multiple has been unnecessarily restricted by the 1951 Code. Section 3105 in the 1953 Code will show the deletion of the second and third sentences. This in effect will permit the installation of any number of conductors in multiple in sizes 1/0 to 500 mcm, inclusive.

Article 320—Open Wiring on Insulators

The scope of this article, Section 3201, will show a reference to Article 730 to indicate the use of this wiring method when used outside of buildings.

A new paragraph has been added to Section 3202 to state exactly where this method of construction may be used.

Section 3208 has its second sentence revised to require "insulation equivalent to the conductors which they confine" in place of "insulation of the same type."

Article 328—Bare Conductor Feeders

The size and capacity of bare conductor feeders in control equipment and switchgear is usually under complete control of the manufacturer supplying such units. Certain guarantees and factory controls will, in general, insure that these conductors will be properly sized. A new provision, therefore, has been included in Section 3282 to specifically exempt the requirements of 1000 and 1200 amperes per square inch when such control or switchgear equipment is being considered.

Article 330—Type MI Cable

This is an entirely new article covering the use and installation of the mineral insulated metal sheathed cable. At the present time the General Cable Corporation is the only manufacturer of this material.

The cable and its components have been quite extensively publicized and is generally pretty well known. Its permissible use will be quite general although it will not be permitted as yet for wiring in hazardous locations.

A special terminating seal must be used and considerable care must be exercised in setting this seal to insure a dry termination. The mineral insulation has a marked affinity for absorbing moisture and for this reason the open ends cannot be left exposed to the air for a too long period of time. The moisture, however, can be easily driven out by heating the exposed end of the cable and this should be done in all cases where seals are not installed immediately upon exposure of the open ends of the cable.

A complete set of tools has been developed and the use of these will expedite the installation of the cable. The actual installation presents no greater problems than are to be found in some of our present wiring systems, with the exception of this terminating seal. This within time will be no more of a job than some of the present sealing installations required by code wiring procedures for present day installations, after the mechanics have had a chance to become familiar with the wiring system.

Article 334—Armored Cable

In Section 3342 the use of Type ACV cable has been revised. No. 4 is the smallest size cable approved. However, for circuits operating above 600 volts, the conductor size may be smaller than No. 4 and this section has been revised to show the exception for this case.

In this same section the fourth sentence of the present code permits the running or fishing of armored cable in the air voids of concrete masonry blocks or tile walls where these walls are not exposed to or subject to excessive moisture or dampness. The question has been raised whether or not the same construction can be used under the same conditions for cinder block walls. The 1953 Code will recognize this and the word "concrete" before "masonry block" will be deleted so that the ruling will be applicable to all types of masonry block walls.

If these walls are generally dry but sections of them go below grade, then the armored cable cannot be fished or run in the section below the grade. This will be covered by the addition to this fourth sentence in the 1953 Code, the phrase "but not below grade line."

Article 336—Non-Metallic Sheathed Cable

The 1953 Code will recognize two general types of this cable. The Type NM cable is specified for use in normally dry locations. It is recognized with an over-all fibrous covering, or with an approved covering other than fibrous. Cables with either type of covering may be run or fished in air voids in masonry block (concrete or cinder as for the armored cable) or tile walls where such walls are not exposed or subject to excessive moisture or dampness.

Type NM with the fibrous covering cannot be installed where exposed to the weather or to corrosive fumes or vapors. It cannot be imbedded in masonry, concrete, fill or plaster. It cannot be run in a shallow chase in masonry or concrete, nor covered with plaster or similar finish.

Type NM with other than a fibrous covering can be installed as prohibited for the fibrous covered type in the immediately preceding paragraph. Special provisions are specified for its installation in embedded plaster or in a chase.

The second type is known as Type NMW and is classified as moisture and corrosion resistant. Its use is more or less permitted wherever the cable will be subject to wet or corrosive atmospheres in addition to its use in normally dry locations.

Neither type of cable can be used in any of the occupancies noted in the 1951 Code, with the following exceptions. The 1951 Code prohibited the installation of the cable in breweries, ice plants, cold storage warehouses, and similar wet locations where subject to mildly corrosive fumes and vapors, or where exposed to the weather. The new type NMW is moisture and corrosive resistant so that the 1953 Code will not include this prohibition. The 1953 Code will add another prohibition in that neither the Type NM nor the NMW can be used as service entrance cable.

(Editorial changes were made in Article 336 after this analysis was prepared. A corrected analysis will appear next month.)

Article 338—Service Entrance Cable

Section 3382 has been amended to permit the use of approved service entrance cable without individual insulation on the grounded conductor to serve a clothes dryer as well as a range and a domestic hot water heater.

Article 339—Type UF Cable

This is the new article covering the use and installation of the direct burial underground feeder and branch circuit cable.

As previously stated this cable must be provided with overcurrent protection. All single conductor cables, including the neutral conductor, for any one feeder circuit, sub-feeder circuit, or branch circuit must be run together in the same trench or raceway.

In some cases it may be necessary to have supplementary mechanical protection. For example, the Code authority may deem this additional protection necessary at certain points where the cable is passing under a heavily travelled roadway.

The cable may be used for interior wiring systems, in which case its installation shall be in accordance with the requirements for nonmetallic sheathed cable in Article 336. In fact, one type of the NMW cables is approved as a Type UF cable.

The prohibitions for its use are identical with those of the nonmetallic sheathed type.

Article 344—Underplaster Extensions

Section 3442 has been revised to permit the use of Type MI cables in underplaster extensions. This also applies to the single-conductor extensions of the Type MI cable.

Article 346—Rigid Metal Conduit

An editorial revision in the 1953 Code shows the inclusion of "textile bleacheries" and "plants producing synthetic staples" as additional occupancies where severe corrosive conditions are likely to be present as noted in the fine print note of Section 3462.

Section 3464 in the 1953 Code will require all supports, bolts, straps, screws, etc., to be of corrosion resistant material or protected from corrosion by approved corrosion resistant materials.

Section 3466 has been considerably augmented in the 1953 Code to specifically refer to the various tables to be used in Chapter 10 when determining the number of conductors that may be installed in a single conduit for different conditions of installation. These rules are more definite and concise than were the rules stated in the single statement used in this section of the 1951 Code. Three subsections are used, one containing the rules for "new work," the second for "rewiring existing conduits," and the last for the "maximum number of conductors" in a conduit or tubing.

The table in Section 3470 has been simplified in that the dimensions have been rewritten to show only full inch values—the decimal parts of these dimensions having been deleted.

Article 348—Electrical Metallic Tubing

The 1953 Code has the caption "Scope" added to Section 3481.

Section 3484 includes new requirement similar to that shown in 3464 for conduit, i.e., supports, etc., to be of corrosion resistant material, etc.

The caption of Section 3486 has been changed to "Number of conductors in Tubing" instead of ". . . Raceway."

Article 350—Flexible Metal Conduit

A table has been added to Section 3503 to show the maximum number of conductors that may be inserted in a $\frac{3}{8}$-inch flexible metal conduit.

Article 352—Surface Metal Raceway

Section 3522 has been revised to delete the phrase "the back and sides of multi-outlet assembly may be surrounded by the building finish; and," in item (1). This section will read "(1) where concealed except that metal raceways approved for the purpose may be used for underplaster extensions."

Article 353—Multi-Outlet Assembly

This is an entirely new article. These assemblies are limited for use in dry locations.

They cannot be concealed, but the backs and sides of metal multi-outlet assembly may be surrounded by the building finish. Non-metallic multi-outlet assembly may be recessed in the baseboard.

They shall not be installed where subject to severe mechanical injury unless approved for the purpose.

If the voltage is 300 volts or more between conductors, the assembly must be of metal having a minimum thickness of 0.04-inch.

The assembly cannot be installed where subject to corrosive vapors, in hoistways, in storage battery rooms, or in any hazardous location.

The multi-outlet assembly cannot be extended through walls, partitions, or floors.

Article 362—Wireways

The caption to Section 3621 has been changed to "purpose and scope." A new opening statement has been added and this defines the purpose of the wireway.

The first sentence of Section 3622 has been amended so that this reads "Wireways may be used only for exposed work in dry locations." Reference to "industrial occupancies, garages, and theatres including motion picture houses" has been deleted.

The caption to Section 3624 has the phrase "in raceway" deleted so that it reads "Number of Conductors."

The end phrase of the first sentence, viz., "by means of hinged cover" has been deleted from Section 3625. In effect, as long as the splices or taps are accessible they may be installed in the wireway.

Article 364—Busways

In the first sentence of 3642 the word "only" has been added, so that this now reads "Busways may be used *only* for exposed work." As the 1951 Code was written there was some question as to the intent of this rule. Some designers contended that properly designed concealed busways could be installed. Until such time as a definite clarification can be made of the entire busway problem, the Code will permit only exposed busways.

Section 3646 has been revised to definitely approve the use of "hard usage cord assemblies" to connect stationary equipment to the busways. The 1953 revision emphasizes the fact that such connections are approved "to facilitate their interchange."

The last sentence of Section 3652 will appear as a fine print note in the 1953 Code since it is actually a recommendation and not a requirement.

◆

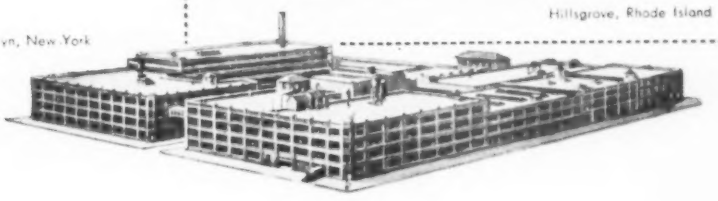
These discussions of 1953 Code changes will be continued in the November issue of Electrical South. ES's panel of Code experts will answer readers' questions on the Code, provided they involve application and not design. Address inquiries to Readers' Service.

American Insulated Wire Co.
Pawtucket, Rhode Island

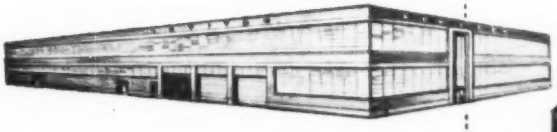
Hillsgrove, Rhode Island

Brooklyn, New York

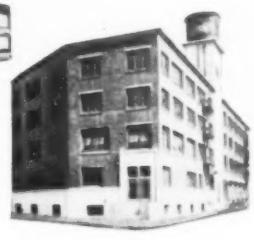
three great plants...



Chicago



two strategic warehouses...



Los Angeles

and ... in Canada
Leviton (Canada) Ltd.
Montreal, Quebec

one purpose...to assure you an adequate supply of...

LEVITON

...quality wiring devices and wire

LEVITON MANUFACTURING COMPANY main office: Brooklyn 22, New York • Offices in all principal cities

Virginia utility men hold two-day meeting

◆ DISCUSSIONS of community development, atomic energy, Federal power policies, and sales problems highlighted a recent conference of public utility company executives from Virginia and West Virginia, at White Sulphur Springs, West Virginia.

Convened for the 35th annual meeting of the Public Utilities Association of the Virginias, September 18-19, utility management men heard addresses on two aspects of community development by utility companies. Speaking on "The Role of the Utility in Community Development," C. M. Wallace, Jr., vice-president in charge of sales, Georgia Power Company, Atlanta, Ga., described the experience of his company in carrying out an area development program over a period of years. He laid down two principles for successful utility development efforts. The first, he said, is that "you must not do the work for the people in a community. . . . The work must actually be done by the people themselves." The second important principle is for company management to examine its motives in sponsoring a plan for community improvement. The company must not expect immediate returns but rather long range economic gains, he said.

Another approach to utility participation in community improvement programs was described in an address by W. C. Handlan, manager, Territorial Development Department, Monongahela Power Company, Fairmont, W. Va., and chairman of the association's Area Development Committee. He said that the electric utility companies in Virginia and West Virginia are co-operating through the association to place their area development efforts on a broader base. During the past year, he said the association had studied population trends in the two states and had published a community development manual. Titled "How's Business In Our Town?" the manual is being distributed through association member companies to civic organizations in their territories.

Atomic fuel use discussed

Walker L. Cisler, president, Detroit Edison Company, Detroit, Mich., keynoted the meeting with an illustrated lecture on progress toward generation of electric power with atomic fuels. He explained that although it is known that nuclear materials can be used as a heat source for power generation, a number of engineering, legal and economic problems need to be solved before commercial atomic power will be feasible. Mr. Cisler assured his audience that atomic fuels would not displace coal and other conventional fuels in the foreseeable future. He pointed out that because of capital requirements existing electric plants will not be remodeled to use nuclear fuel but that atomic power plants will be entirely new installations.

The power policies recently announced by the U. S. Department of the Interior were amplified in an address by Clarence A. Davis, the department's solicitor. Mr. Davis pointed out that the Interior Department is obligated by congressional directives to carry out a number of policies with regard to the generation and sale of electricity from government installations. He summarized the duties of the department with respect to power as being that of "selling a surplus government product to benefit the largest possible number of people, giving preference to public agencies, to help recoup a government investment." Discussing power policies of past administrations, Mr. Davis said in his opinion there has been "far too much politics and far too little arithmetic in the whole affair from the beginning."

Getting back to selling

A new era in public utility selling was forecast by B. K. Wickstrum, vice-president, Sylvania Electric Products, Inc., in an address titled "Getting Back To Selling." Remarking that electric energy consumption has been doubling every ten years, Mr. Wickstrum said that by 1963 electric sales might reach 800 billion kilowatt hours annually. Stepped-up selling effort and mass promotion methods will have to be used by the utility industry to reach that goal, he said. Recommendations for meeting the challenge of the present and future market included more intensive co-operation with manufacturers, distributors, and dealers of appliances and equipment, and employment of better-quality, higher-paid utility sales personnel.

At the association's annual banquet, Dean Russell, author of "The TVA Idea" and an editor on the staff of the Foundation for Economic Education, spoke on "My Freedom Depends On Yours." He stressed the need for each individual having a true conception of freedom and liberty in present social conditions where freedom is restricted on many fronts.

Erwin Will named president

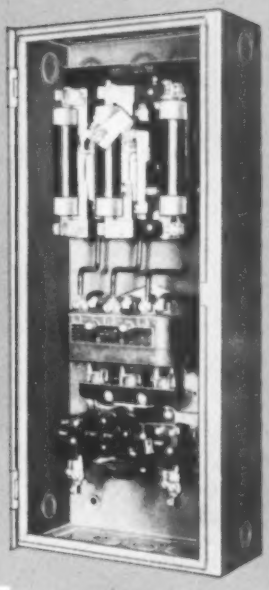
At the final business session the association elected Erwin H. Will, vice-president in charge of operations, Virginia Electric and Power Company, Richmond, Va., as president. He succeeds R. E. Hodges, division manager, Appalachian Electric Power Company, Charleston, W. Va. Other officers elected for 1954 are first vice-president, A. J. Bowen, division manager, Northern Virginia Power Company, Winchester, Va.; second vice-president, D. B. Potter, vice-president, Monongahela Power Company, Fairmont, W. Va.; executive secretary, R. W. McKinnon, Roanoke, Va.; treasurer, J. C. Parrott, president, Roanoke Gas Company, Roanoke, Va.; assistant treasurer, A. T. Ellett, secretary, Roanoke Gas Company, Roanoke, Va.

Approximately 375 persons attended the two-day conference.

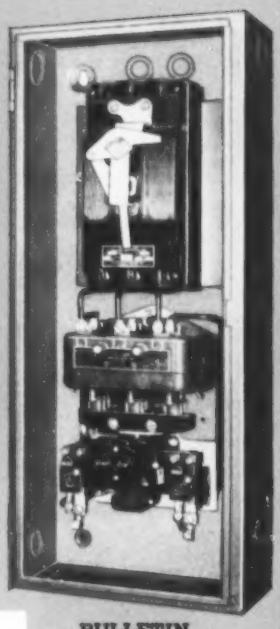
COMBINATIONS *that can't be beat!*

CLARK TYPE 'CY' COMBINATION STARTERS

CLOSED VIEW
BULLETIN 6018
6020 NEMA 1 OR
1A ENCLOSURE



BULLETIN 6018
WITH DISCONNECT
SWITCH



BULLETIN
6020 WITH
CIRCUIT BREAKER

The basic unit of Clark Type "CY" Starters, Sizes 2 and 3, features Twin Break Contacts and Twin Blowout Coils.

Combined in minimum space for the first time in Electrical Control history, this construction forces the arc to rotate.

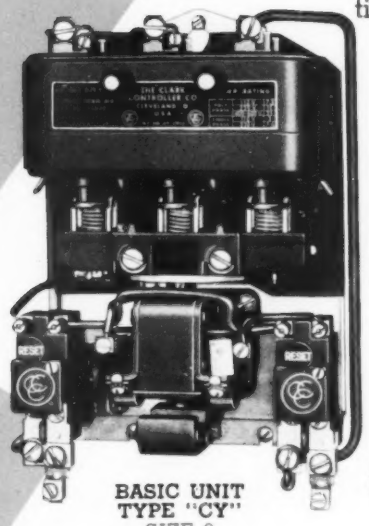
The arc never strikes twice in the same place during quenching. This means longer contact life, less maintenance.

Bulletin 6018 uses this incomparable starter together with a quick make-quick break Disconnect Switch.

Bulletin 6020 combines a high interrupting capacity air Circuit Breaker with the basic Type "CY" unit.

Both Disconnect Switch and Circuit Breaker are interlocked with the formed sheet metal cover, and are front operated.

Available in NEMA Type 1, 1a, and 12 enclosures, all with Safe Edge formed openings.



BASIC UNIT
TYPE "CY"
SIZE 2

NEMA 12
ENCLOSURE
SAFE EDGE
CONSTRUCTION

©

ENGINEERED ELECTRICAL CONTROL

THE CLARK CONTROLLER CO.

1146 EAST 152ND STREET, CLEVELAND 10, OHIO

CLARK TYPE 'CY' ENCLOSURES for *Every Industrial Atmosphere*

NEMA TYPE 12 FORMED SHEET METAL ENCLOSURE

NEMA TYPE 5 DUST-TIGHT ENCLOSURE

NEMA TYPE 9 EXPLOSION RESISTING FOR HAZARDOUS DUST LOCATIONS, CAST ENCLOSURE

The sensational new Clark Type "CY" Starter, with its Twin Break Contacts and Twin Blowout Coils sets a new "High" in AC MOTOR CONTROL.

Note the steel arc chambers in the drawing below.

See how the Blowout Coils are concentric with the contact.

This construction forces the arc to rotate, never striking twice in the same place.

The top of the arc box is closed. No ionized gases accumulate around the terminals.

Bulletin 6018 starters with Disconnect Switch, and Bulletin 6020 with Air Circuit Breaker are available in types of enclosures to meet every industrial atmospheric condition.

Also available, but not illustrated are NEMA Types 4-7.

Cutaway view showing steel arc chambers and blow out coils concentric with contacts. Closed top on arc box prevents accumulation of ionized gases around terminals.

©

ENGINEERED ELECTRICAL CONTROL

THE CLARK CONTROLLER CO.

1146 EAST 152ND STREET, CLEVELAND 10, OHIO

School lighting leads modernization trend

by H. S. Thomas
Division Sales Manager
Mississippi Power and Light Co.
Jackson, Miss.

◆ THE ACCEPTANCE of higher levels of illumination and better quality of lighting has increased tremendously in the past several years throughout our area. This is true of commercial, home, office, school and other applications. It is interesting to note that the better lighting installations are not confined to new constructions but many of them are relighting of existing areas.

Possibly the most rapid stride has been made in the field of school lighting. Prior to 1951 the levels of lighting in practically all of our schools were below 10 footcandles. Today, we have any number of schools, both new and old, with lighting intensities of from 30 to 50 footcandles in the classrooms.

In 1951 the City of Jackson School Board, in making plans for the remodeling of their old schools and equipping of new schools, set minimum lighting requirements for the class rooms of 30 footcandles. All of the old schools have been brought up to these specifications and all new schools are being built to surpass these minimum requirements.

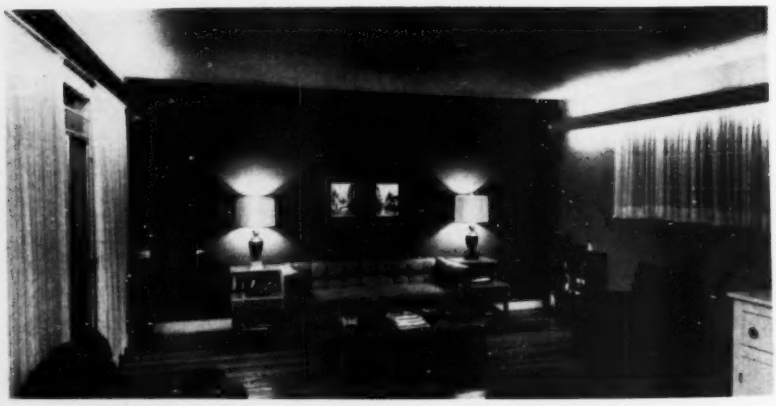
This has materially influenced the acceptance of equally as good standards in schools throughout our area. Practically all of the new schools constructed will have better than 30 footcandles in the class rooms and a number of the old schools are revamping their lighting and bringing it up to these standards.

In store and office lighting the need for 50 to 100 footcandles of illumination is pretty well accepted. Most of the installations, even though of high intensity, are more or less conventional in fixtures and layouts. It seems that we are approaching the point when more time will have to be given to tailor made installations designed as an integral part of the structure and requiring more ingenuity in design and layout. Some of these type installations have been installed and the acceptance has been very good.

The trend toward planning lighting as an integral part of room structure is illustrated by this view of a small private office of the Mississippi Valley Gas Co., in Jackson, Miss., utilizing a luminous ceiling.

Many classrooms in Jackson, Miss., schools are now lighted to intensities of from 30 to 50 footcandles. This is a room in an elementary school.

In office lighting there has been a trend on the part of manufacturers and suppliers to recommend louvered fluorescent fixtures. This is understandable due to the fact that many manufacturers do not manufacture a well shielded fixture



Lighting of residences is progressing; many feature built-in units.

for this application except in the very high price range. This presents a continuous selling job to all allies as well as office management on the need for not only good quantity of light but equipment that will give good quality lighting in offices and other areas where close seeing is involved. It seems that the acceptance of quality lighting has not kept pace with the acceptance of higher levels of illumination.

Outdoor sports lighting is another field that has shown rapid growth in the last year. Practically every small town has, or is installing, soft ball fields, little league fields, baseball fields, and similar type installations. Another interesting trend in outdoor lighting is the acceptance on the part of schools and other institutions of high intensity campus lighting. Most of these installations employ the 400 watt mercury vapor lamp mounted on suitable standards and supplied by underground feeders. There are five of these installations in the immediate Jackson area.

There is a marked trend for the employment of built-in lighting in new home construction following the principal of light conditioned homes. Most of this is from valance and cornice lighting with the baffles built up on the job and employing standard fluorescent strips.

Our company has carried on an intensive lighting promotion activity over the years. All sales personnel do a lighting selling job on all calls and make recommendations and layouts. A number of meetings covering different types of lighting have been held from time to time for particular groups.

Several years ago a Mississippi Chapter of Illuminating Engineering Society was organized with membership consisting of architects, design engineers, electrical distributors, electrical contractors, and utility sales people. This has been a great contributor to better lighting throughout the area as it gives all allied people in the industry an opportunity to become acquainted with the latest accepted practices and also a common meeting ground for exchange of ideas. Most of the consulting engineers who are employed by architects belong to this organization.

Luminous ceilings featured in capital

by Harold V. Oerting

Supervisor, Lighting
Potomac Electric Power Co.
Washington, D. C.

◆ LIGHT IS SPREADING in Washington, the Nation's Capital. A definite and marked trend has been observed toward larger luminous elements, notably luminous ceilings, particularly in the office and store field. This system effectively brings the out-of-doors indoors. For the

Mutual Federal Savings and Loan Association was recently relighted.

Lighting, air conditioning, and soundproofing were combined in a single architectural element in the Washington Savings and Loan association.

first time, the lighting engineer can efficiently create seeing conditions that compare favorably with nature.

The accompanying illustrations are typical of the many installations of luminous ceilings in Washington. It shows the Mutual Federal Savings and Loan Association in which the Lighting, air conditioning, and soundproofing have been combined in a single architectural element. The luminous ceiling consists of corrugated vinyl plastic panels below fluorescent strips. This system provides a uniform level of illumination of 45 footcandles in service, with low brightness, the two factors essential to comfortable seeing.

Much of the progress made in lighting in this area is due to the constant efforts of two energetic organizations, The Capital Section of the Illuminating Engineering Society, and The Electric Institute of Washington. Through regular and special meetings these two groups bring together engineers, architects, contractors, lighting representatives, and salesmen, all working for one purpose — better lighting for Washington.

Growth of Houston creates lighting jobs

by H. G. Hrivnatz
Lighting Engineer
Houston Lighting and Power Co.
Houston, Texas

◆ HOUSTON has been labeled one of America's fastest growing cities. In keeping with the rapid commercial, industrial, and agricultural development, the Houston Lighting and Power Company has had to increase its plant facilities in like proportion and is therefore one of the fastest growing electric utility systems in the country.

Much of this growth has been in seasonal applications, including air conditioning and rice irrigation, giving us a constantly widening difference between summer peak loads (normally occurring in the afternoon), and winter load "valleys." Lighting is therefore an important factor in increasing winter system loadings to bring them more nearly in line with summer loads.

The residential lighting load is especially beneficial in this regard. Steps have already been taken to promote better residential lighting by helping the builder, architect and owner in its design. During the week of September 20th, the Houston "Parade of Homes" featured 30 demonstration homes, many of these with special lighting. One will be labeled the "Light Conditioned Home."

The Commercial Sales Department of the Houston Lighting and Power Company is planning an organized lighting sales campaign directed to all customer groups. The campaign started October 1.

Lighting is a natural for a campaign this fall because of the reason stated above and the fact that building permits in the Houston area are maintaining a high level. To obtain good lighting in these new structures will be a challenge to the sales department.

The advent of luminous ceilings in the commercial, industrial, and even the residential field will do much to encourage other users to meet the footcandle level and the quality of light obtained from this type of construction. It is modern and is setting the trend in lighting. It's application in stores, offices, drafting rooms, board rooms, dens, and others has proved very popular. The illustration shows a louvered ceiling of a small drafting room in which the employees work under an average of 120 footcandles.

The field is ripe for a good lighting campaign. In past years, fixture orders were taken primarily to light up new structures. This is still true, but a concerted effort will be made to get in on the job early enough to participate in its design. The job of relighting offices, stores, and shops can be done most effectively by means of a planned lighting campaign where the wholesaler, contractor, and utility representative tell in unison the story of what constitutes good lighting and its benefits to the user.

A louvered ceiling now provides glareless and shadowless lighting for the drafting room of a Houston industrial plant.

Shopping area success attributed to lighting

By William B. Shenk

Commercial Development Department
Florida Power Corp.
St. Petersburg, Fla.

◆ LIGHTING trends in the St. Petersburg area are exemplified to a large extent by the type of lighting being installed in a large modern shopping center occupying several complete city blocks.

Parking area of the Central Plaza Shopping Center in St. Petersburg is lighted with mercury floodlights.

The Central Plaza Shopping Center project takes in eight city blocks, along Central Avenue, the heavily traveled main east-west thoroughfare of St. Petersburg. Two blocks between Central Avenue and the stores shown, which themselves occupy two blocks, and two blocks behind them, are floodlighted to an intensity of more than five times the street lighting illumination with 400-watt mercury vapor lamps in enclosed Alzak aluminum floodlights, mounted on 30-foot high tapered aluminum poles. The two remaining blocks of property to the east of the stores are cleared, preparatory to the construction of other units.

Attractive and effective identification signs, with cold cathode lighting, at both ends of the property get the attention of the motorist well ahead of his arrival at the parking area. Here the unique quality of the mercury lighting on the paved surfaces, with car spaces neatly marked, add a strong inviting note to the motorist to "come in and shop awhile."

Each of the thirteen different firms, now doing a thriving business, is effectively identified on the fronts of the building. The spacious sidewalks in the front area are illuminated with two continuous rows of cold cathode white tubing installed along the front edge of the overhanging canopy, shielded on both the front and back sides. The photograph indicates the effective illumination of this area.

The store interiors pictured here are representative of the entire group. It is only fair to say that the photographs do not do justice to the lighting or over-all attractiveness of the stores. However, I think it will be apparent that these are certainly representative of the best in lighting practice for large volume merchandising. No two stores have exactly the same lighting arrangement nor do any two use the same kind of lighting equipment.

All of them, however, are adequately lighted, generally at approximately 50-footcandle level for general illumination, and all are tastefully decorated in light colors providing brightness balance for

foremost in contemporary lighting

There is a Prescolite for any commercial or residential installation. Easy to install, **Easier to sell!** Exclusive features, pre-wired units. Wide range colors, styles and finishes -- unit packing, easy to stock and reship.

Write for complete new catalogs to: Prescolite 2229 Fourth Street, Berkeley 10, California.

A-1 Architectural
R-7 Recessed
S-2 Swivel

PRESCOLITE MANUFACTURING CORPORATION
Berkeley, California **Neshaminy, Pa.**

See your distributor or your nearest Prescolite sales representative.

see our CATALOG in SWEET'S FILE ARCHITECTURAL

Atlanta, Ga.—Charles L. Woodyard, 161 Simpson, N.W.
Baltimore, Md.—T. H. Bailey, Jr., 409 National Marine Bank Bldg.
Boston 10, Mass.—John W. Fay, 176 Federal Street
Cedar Grove, N. J.—P. M. Sales Co., 118 Sunrise Terrace, Box 14
Chicago, Illinois—Rudolph H. Soukup, 1585 Merchandise Mart
Cleveland, Ohio—Cam Norton Company, 2725 Derbyshire Rd.
Dallas, Texas—John Hancock Company, 2921 Fairmount
Dayton 2, Ohio—Gary Roof & Assoc., 1147 Third National Bldg.
Denver, Colo.—Kenneth B. Schumann, 1073 Galapago St.
Detroit, Mich.—L. H. Beck, Electric Sales Co., 13050 W. Chicago, 2F
Erie, Pa.—D. S. Pollock Co., 622 W. 9th Street
Flourtown, Pa.—Bond & Kyack, 1510 Bethlehem Pike
Kansas City, Mo.—Carl W. Thorsell, 1195 E. 77th St.
Knoxville, Tenn.—C. E. Pitner, P. O. Box 693
Los Angeles, Calif.—Barney DeRamus & Assoc., 125 S. Santa Fe
Milwaukee, Wisc.—Willis H. Murphy, 4520 N. Woodruff Ave.
New Orleans, La.—E. J. Hagan, 3820 Louisiana Ave.
Oklahoma City, Okla.—Tom Fielder Company, 313 N.W. 4th St.
Omaha, Nebr.—Geo. C. Mittauer, 1112½ Farnam Street
Richmond, Va.—W. H. Lassiter Sales Company, 300 E. Main Street
Salt Lake City, Utah—J. R. Christensen Agency, 247 E. 5th South
Sacramento, Calif.—A. L. Perdue, 4305 Ravenwood Ave.
St. Louis, Mo.—J. A. Noser, 3204 Bailey Street
St. Paul, Minn.—Charles L. Schwab, 345 N. Wheeler
St. Petersburg, Fla.—Frank C. McPherson, 6417 - 7th Ave., North
San Diego, Calif.—John Allen Ware & Assoc., 301 West G Street
Seattle 5, Washington—Gleasons Mfgs'. Reps., 657 E. 45th Street
Syracuse, N. Y.—Fay-Sullivan, Inc., 1117 Cumberland Ave.
Vancouver, B. C.—J. S. Edwards, 1206 Hamilton St.
Mexico City, D. F.—Egon Mabardi, 45 Uruguay
Export Agents: Uniworld Industrial Mart, 31 E. 10th St., New York, N. Y

comfortable seeing. All of the merchants report sales beyond their expectations even during the first few months of operation. Unquestionably the lighting has contributed to the success of this mammoth project.

All of the stores are air conditioned with individual units of various manufacturers in each. The load was of such magnitude that a 3-phase, 4-wire Wye spot network system was installed and two surface vaults were made a part of the building structures to house the transformers and related equipment. The electrical facilities for the entire project were planned by our company. This is a usual service which we furnish to our customers.

Although this is the "Sunshine State" and one of our newspaper publishers gives away the home edition of his paper on any day that the sun doesn't shine, we are nevertheless enjoying considerable success in planning and having installed modern lighting installations that are as good as can be found any place in the country. This applies equally to stores, offices, and schools. Our customers are finding that well planned modern lighting installations are much more dependable than natural light and that they produce profits, comfort, and satisfaction obtainable in no other way.

Luminous side, shielded fluorescent general illumination and good color conditions provide brightness balance and maintain 50 footcandles in properly lighting this grocery store. Lighting is completed with illuminated signs around walls of the store and illuminated display niches on side walls.

Bare tube continuous four-lamp fluorescent lamps provide general illumination for this drug store in the St. Petersburg shopping center. Illuminated wall cases and identification signs are also featured in the lighting.

Incandescent downlights prevalent in Dallas

by W. E. Folsum

Illuminating Engineer
Dallas Power and Light Co.
Dallas, Texas

◆ **A LARGE VOLUME of new construction has provided the opportunity for the installation of much modern lighting in the Dallas area. This applies particularly in store and office fields.**

Incandescent downlights are prevalent in new stores and are seen in interesting new types as the "low-brightness" ellipsoidal unit and square baffled silver-bowl downlights with adjustable beams. Such equipment puts the accent on merchandise in an effective manner.

In new office buildings as well as in relighted offices, there is evidence of the realization of the importance of better shielding of fluorescent luminaires. "Low-brightness" equipment is finding growing use as its contribution to visual comfort is realized. In new buildings lighter furniture with suitably colored surroundings help coordinate the visual surroundings for more comfortable and effective vision.

Dallas is becoming a "City of Light" to an increasing extent. A sustained promotion is under way to give the city a brighter night

THE MAKERS OF THE WORLD-FAMOUS AMPROBE NOW BRING YOU THE

NEW AMPROBE JUNIOR

VOLT-AMP TESTER

$19.85
INCLUDING VOLTAGE TEST LEADS

ACTUAL SIZE

One pocket tester does the complete job

IT'S A SNAP-AROUND AMMETER
Measures current instantly without shutdowns or breaking of insulation for ammeter connections.

IT'S A VOLTAGE METER
Measures voltage quickly, accurately on a full-sized calibrated scale; eliminates guesswork.

Gives you tester ruggedness with instrument accuracy (within ± 3% of full scale)

PICK THE RANGE THAT FITS THE JOB:

MODEL "10": 0- 10 AMPS A-C 0-125/250 VOLTS A-C
MODEL "25": 0- 25 AMPS A-C 0-125/250 VOLTS A-C
MODEL "50": 0- 50 AMPS A-C 0-125/250 VOLTS A-C
MODEL "100": 0-100 AMPS A-C 0-125/250 VOLTS A-C

Now every service man can be equipped with this time-saving pocket tool. The Amprobe Junior pays for itself the first month alone by taking the guesswork out of installation and servicing jobs. When you "Amprobe" it, you get it right the first time and eliminate costly call-backs. Write today for Catalog No. 132. Pyramid Instrument Corporation, Lynbrook, New York (Export Division: 458 Broadway, New York 13. Cable: Morhanex).

ES 103

IF YOUR JOB CALLS FOR A MULTI-RANGE AMPROBE:

AMPROBE "300"
0-6/15/30/60/150/300 AMPS AC.
0-150/300/600 VOLTS AC.
$49.50 COMPLETE WITH LEATHER CASE AND VOLTAGE TEST LEADS.

AMPROBE "600"
0-15/30/60/150/300/600 AMPS AC.
0-150/300/600 VOLTS AC.
$59.50 COMPLETE

AMPROBE "1200"
0-15/60/150/300/600/1200 AMPS AC.
0-150/300/600 VOLTS AC.
$67.50 COMPLETE

time appearance. Many of the large buildings are surmounted by spectacular lighting arrangements of some kind, or are floodlighted. Lighted signs are becoming larger and are brighter due to the use of new types of light sources.

Streets are brightened by competitively lighter drive-ins of many sorts. Outlying stores and cafes are finding well-lighted parking areas a necessity. Used car merchants are vieing with each other to have the brightest lots.

The building of suburban shopping centers is booming. In most cases these areas are unified by a common exterior lighting plan as well as by architectural design.

An important step toward making Dallas a "City of Light" is the fine work of the Park Department in lighting public play areas of all sorts—tennis, baseball, swimming pools, etc. At present, there are 82 lighted multiple play areas and 36 lighted hard and soft ball diamonds in Dallas, contributing to the night time welfare and pleasure of the city's youth.

R-52 lamps play role in light for industry

by Roger W. Renkel
Union Electric Company of Mo.
Saint Louis, Mo.

Accounting office of Texas Employers Insurance Co., in Dallas, is 133 feet by 47 feet with a 10 foot ceiling height. Low brightness two-lamp recessed troffers on 5 by 7 foot spacing are placed on the light green acoustical tile ceiling. Average footcandles of illumination is 59.

Incandescent downlights are featured in Neiman Marcus' Preston Center Store. Recessed adjustable spots with PAR spot lamps are used for accent.

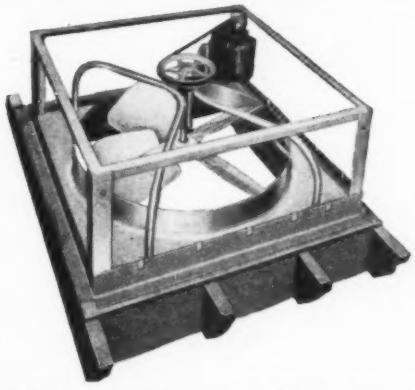
◆ A NOTICEABLE trend exists in the St. Louis area toward recessed incandescent downlighting in the better type of supermarkets for general illumination. One such installation is shown in the accompanying illustration. Food Center is a food chain store, located in Ferguson, Mo., a suburb of St. Louis. 200-watt lamps in recessed reflectors with louvers, on 7-foot square spacing provide the general illumination from a 12-foot high white acoustical ceiling.

The 16-foot high center area has a shielded trough of two continuous rows of DeLuxe Cool White lamps for decorative effect. The primary downlighting in this area is provided by 300-watt lamps in recessed reflectors. Side wall mirrors create the effect of expansiveness. The floor is light tan Terrazzo. The installation was designed by Peter T. Siebke, architect, with the assistance of the author. A similar installation is under way now in South St. Louis.

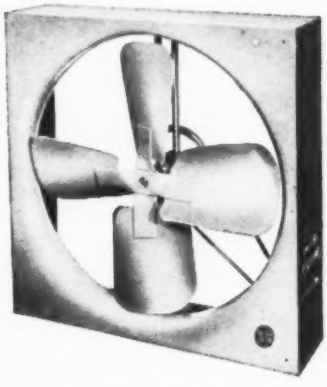
Another noticeable trend, locally, is the use of high wattage reflector lamps in foundries, machine shops, and other high bay areas. Our company has been promoting the use of this lamp rather extensively for applicable installations. One of the accompanying illustrations shows the machine shop of the Moloney Electric Company, manufacturers of electrical transformers, in St. Louis, Mo.

LAU 1954 Fan Facts

Here's the LOW-COST way to add Sales Appeal to every home you build!



LAU "Niteair" Rancher Fans. Available in sizes and air delivery to meet every need. Balanced, free of vibration, built for quiet, trouble-free service.



LAU "Niteair" Panel Units. Residential, commercial and industrial fans adaptable for any practical application in homes, apartments, stores, office and industrial plants.

Today's home buyer wants his new home completely equipped with the latest in modern conveniences. BUT . . . he doesn't want to pay high additional costs for these comforts.

That's why a LAU Fan answers your problem. At a low cost, a LAU "Niteair" Fan offers the home owner the ultimate in cool, refreshing, healthful slumber. During those hot summer months he'll sleep cool as a cucumber in a house that YOU built and SOLD him.

Quick . . . easy . . . economical to "install-when-you-build". The LAU Fan is the quickest way to a prospect's heart and POCKETBOOK. For more sales, more profits, plan to install tested, proven LAU "Niteair" units in your next project!

Guaranteed 5 Years

Lau fan ratings are Certified by the PFMA and carry UL approval. Fans are guaranteed for 5 years and motors carry a one-year warranty.

THE LAU BLOWER COMPANY, 2019 Home Avenue • Dayton 7, Ohio

Write today for catalogs and further information.

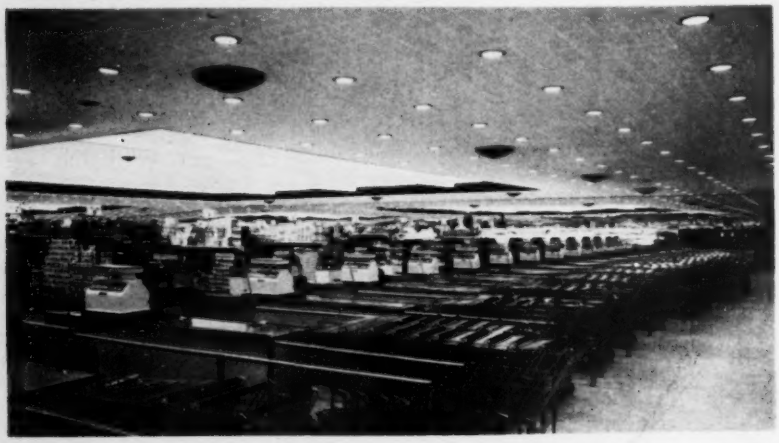
For this job 750-watt R-52 reflector lamps were used. Spaced 14 feet by 14 feet from a 25 foot mounting height, they produce an average of 57 footcandles. This intensity will remain practically constant, because after 2,000 hour lamp life, a new lamp with built in reflector replaces the old one.

I am firmly convinced that the exceptionally rapid growth of the St. Louis Section, of the Illuminating Engineering Society, has materially helped our local contractors and wholesalers in the active promotion of better lighting for both modernization and new construction.

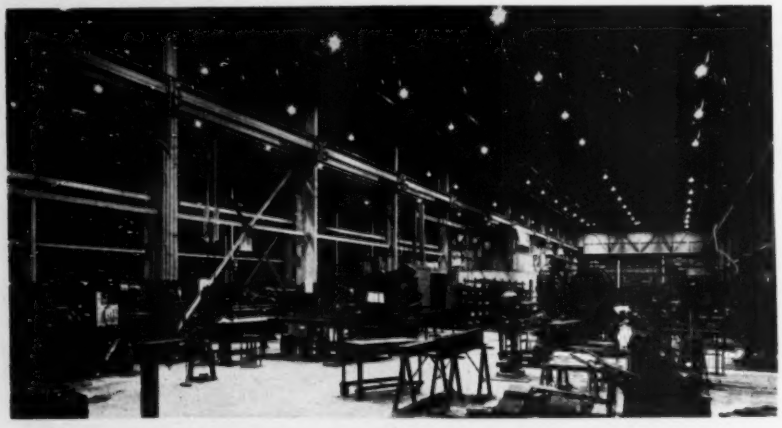
Activity in all fields reported in Georgia

by Joe B. Browder
Manager, Lighting Division
Georgia Power Co.
Atlanta, Ga.

◆ ALL TYPES of lighting are active in this area without exception. A great deal of new construction and remodeling of old buildings goes on all the time. New buildings are almost universally using fluorescent lighting, mostly with shielded fixtures. The only major exceptions are supermarkets which show a strong tendency to use bare lamp fluorescent fixtures in continuous rows. I believe that these stores will go more and more to shielded units as time goes on. Great interest in lighting is exhiibted by owners and lessors of buildings.



The better type of supermarkets in the St. Louis area feature recessed incandescent downlighting. This photo shows a view of Food Center, a food chain store in Ferguson, Mo. The center area with higher ceiling has continuous rows of fluorescent lamps in shielded troughs.



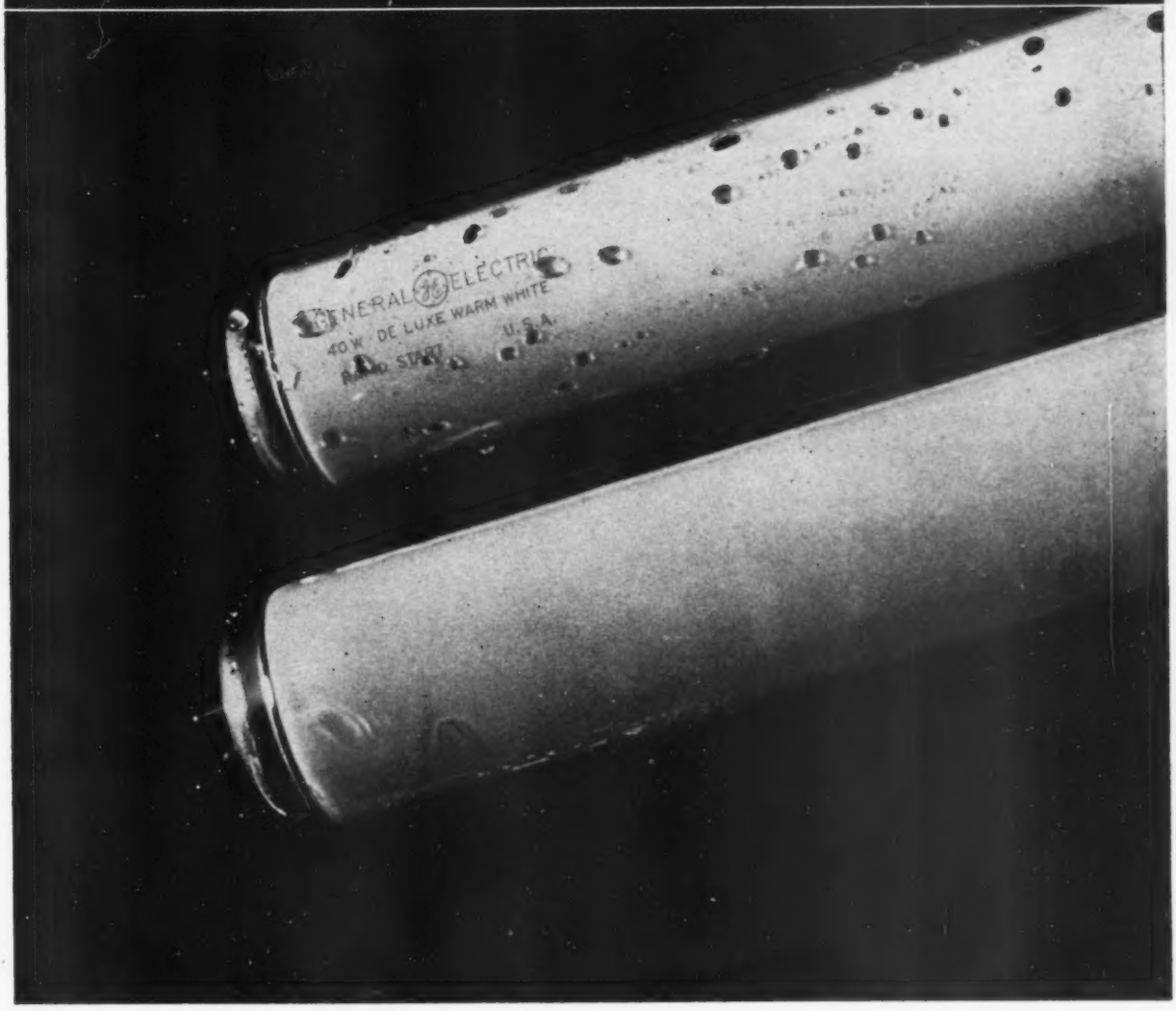
High wattage reflector lamps are used to good advantage in high bay industrial applications such as this machine shop of the Moloney Electric Company, of St. Louis, manufacturers of transformers. R-52 units, 750-watts, mounted 25 feet high on 14-foot centers provide a level of 57 footcandles

If any type of activity is outstanding in lighting progress, it is schools and sports lighting. Great numbers of schools are being built, enlarged, or remodeled. The Georgia State Department of Education has recently decided to follow a definite set of lighting standards in all schools for which financial aid is given. These specifications cover the minimum footcandles and brightness required in all school rooms in which it is interested.

The interest in sports lighting continues widespread throughout this area, particularly in football, baseball, softball, and tennis. The tendency is definitely towards the use of higher footcandle levels requiring more floodlights. Earlier experience in fields lighted with minimum numbers of floodlights has convinced most users that additional lighting is necessary for satisfactory night use of lighted sports areas.

One trend quite noticeable in store lighting is the marked increase in the use of incandescent lighting in many places such as restaurants, and shoe stores. Many people consider that a more pleasing atmosphere is created by the warm color quality of this type of

You expect the best value from G-E fluorescent lamps



Silicone coat on new G-E Rapid Start lamps helps them start quicker

Moisture in the air can make a fluorescent lamp slow to start. The wet film that condenses on the lamp is a good enough conductor to detour some of the electricity needed for proper starting.

General Electric has tailored a "raincoat" that stops this. It's made of silicone and breaks up the wet film into tiny droplets, leaving dry areas that interrupt the electrical contact. Less current is stolen. Starting is quicker, surer.

We call the coating Dri-Film*. The photo above shows the difference it makes. Moisture breaks up into droplets on the Dri-Film* lamp, forms a smooth coating on the ordinary lamp.

You get Dri-Film* on G-E Rapid Start lamps. It's invisible, won't rub off, helps assure you all the light you pay for. Many leading manufacturers have designed lighting fixtures to use Rapid Start lamps and their special Rapid Start ballasts. You *expect* the best value from G-E fluorescent lamps. Here's another reason you can.

For more information, write General Electric, Department 166-ES-10, Nela Park, Cleveland 12, Ohio.

*Reg. U. S. Pat. Off.

You can put your confidence in—

GENERAL ELECTRIC

lighting. Fluorescent lighting is usually used behind valances to light walls for special effects.

In our opinion, lighting contractors and wholesalers are not sufficiently active in promoting lighting modernization. There are some exceptions where electrical wholesalers employ a lighting specialist to push lighting sales exclusively. Those that have tried this plan like it, reporting that their greatest difficulty is to get good men trained in lighting. Such men are next to impossible to obtain in this territory.

To help remedy the above scarcity of trained lighting men, the Lighting Division of Georgia Power Company has been operating a course in lighting on a full time basis for four weeks. Electrical wholesalers and contractors are encouraged to have all of their new lighting men take this course. In four weeks a condensed version of the lighting course given to our lighting engineers is presented.

We have a well equipped training room with plenty of instruction material such as sound slides, film strips, motion pictures, books on lighting, and current lighting literature, available as well as experienced instructors. A number of men have already finished this course, and we usually have some men going through it at all times.

This course has aroused considerable interest among those men already employed by electrical wholesalers and contractors who are unable to attend the day course because of the pressure of their regular work. To assist these men, a course is now in preparation which will be presented two nights a week for five weeks. Each of the ten sessions will have two and a half hours instruction time. This course will be given once this fall, and probably again next spring. Already over twenty-five students have said that they will take the course.

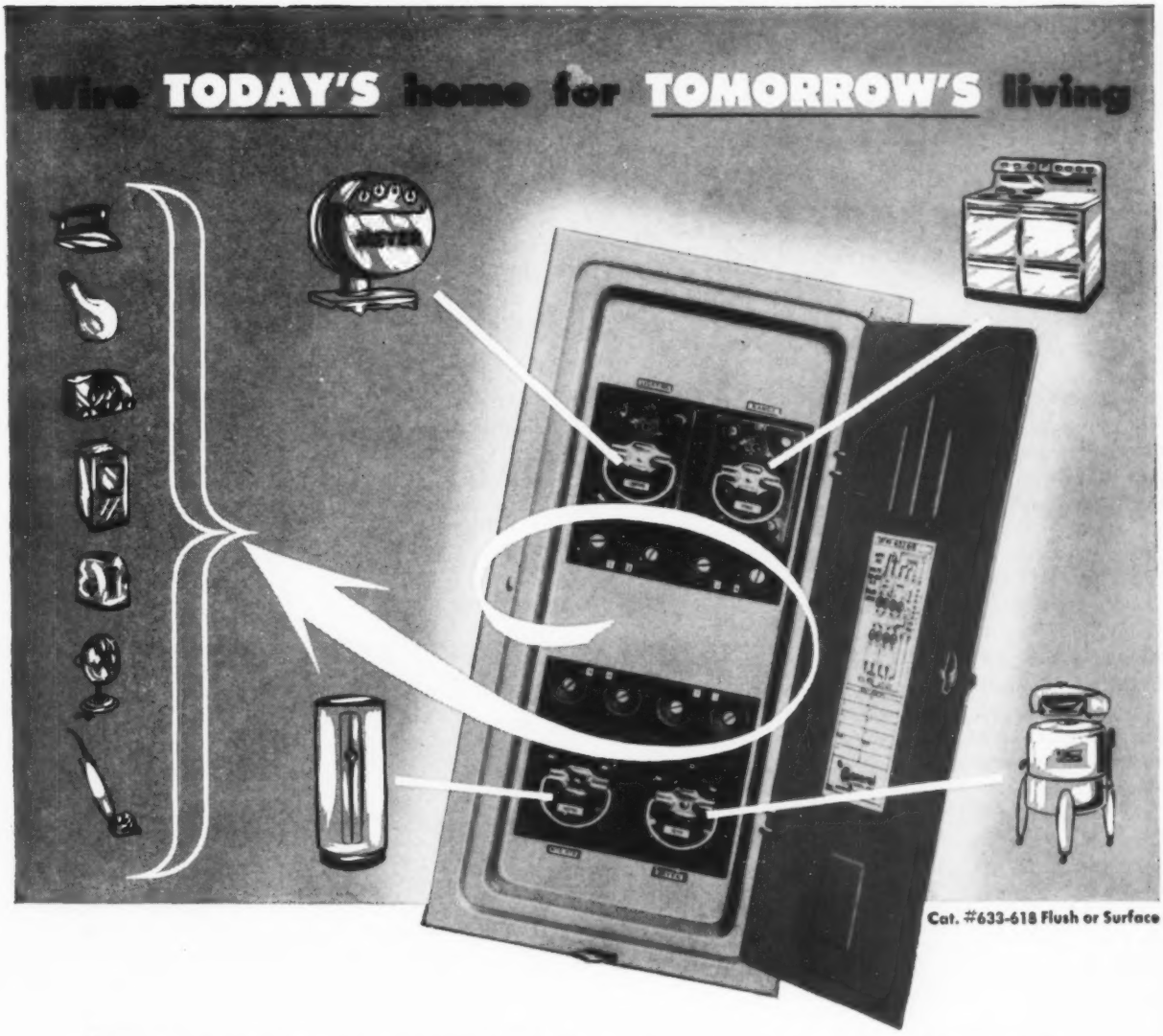
It is believed that the lighting training mentioned above will be reflected in many more good lighting installations being sold in this area. The results obtained by graduates of our four week lighting course make us feel that this activity is very well worth while in securing better lighting for our customers, more sales for contractors and wholesalers, and more kilowatt-hours for us.

The lighting in this branch of the Citizens and Southern National Bank, in Atlanta, installed by White Electrical Construction Co., features recessed louvers. The 4 by 4 foot units each have eight 40-watt fluorescent lamps, while the 2 by 2 foot units each have eight 20-watt lamps. The illumination intensity is 38 footcandles in the lobby area and 30 at the tellers' counters.

Thirty-six 1000-watt RLM reflectors with guards provide 35 to 40 footcandles in this gymnasium of the Douglas High School, Douglas, Ga.

The relighting of Muse's men's shop, Atlanta, includes a combination of troffers and downlights in an attractive, functional pattern. Fulton Brothers Electric Co., of Atlanta, made the installation which provides 40 to 50 fc.

Wire TODAY'S home for TOMORROW'S living



Cat. #633-618 Flush or Surface

General brings you a "Main and Range Plus"! The *quadruple* pullout unit that actually plans for the future. Not only does this all-in-one unit take care of today's wiring requirements . . . it *anticipates* tomorrow's needs. Eliminates costly auxiliary wiring equipment, and unsightly additions. The General Quadruple Pullout unit is neat, compact, thoroughly dependable. It saves you time and materials . . . at a price you want to pay. No wonder wholesalers and contractors all over the country are saying: Switch to General today! Available everywhere exclusively through wholesalers.

100 Amp. main lugs feed 4 pullouts connected in parallel. One 60 Amp. functions as a main disconnect for eight 30 Amp. plug-fuse branch circuits and the 60 Amp. sub-feed lugs. Three additional pullouts (one 60 Amp. and two 30 Amp.) control appliances such as, Ranges, Water Heaters, Dryers, etc. Other combinations may be ordered.

Sales Offices in every Major City

General Switch Corp.

Write for catalog #5201

45 ROEBLING ST. • BROOKLYN 11, N. Y.

ENCLOSED SAFETY SWITCHES • SERVICE ENTRANCE EQUIPMENT • BRANCH CIRCUIT PANELS

Retail stores using more incandescents

by H. W. White
Consolidated Light and Power Co.
Baltimore, Md.

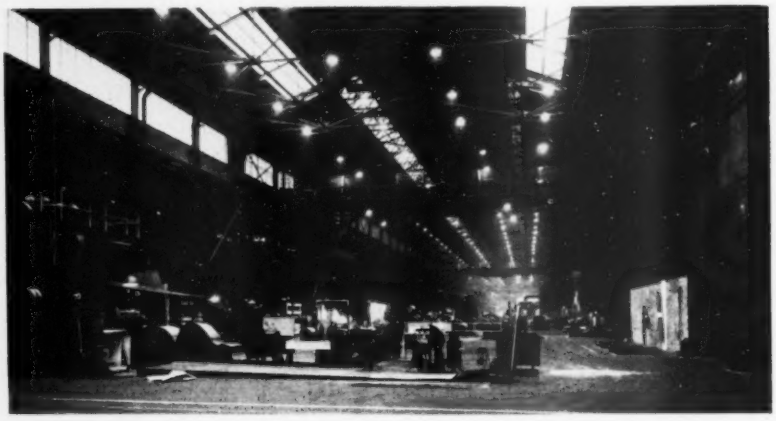
◆ THE AUTOMOBILE used car lots will require a great deal more light as a sales aid. With so many used cars to be sold today, it is important that the used car lot be made as attractive as possible to the prospective buyer. Only a few years ago, 5 footcandles or less was acceptable for selling used cars. Today, however, with the pressure of competition, and more used cars on the market, it is good practice to provide 25 to 50 footcandles of light in order to attract customers and sell used cars. It is evident, therefore, that there is good business for the lighting industry in this field. Generally, the jobs that were put in before 1950 may well be due for relighting.

Another noticeable trend is that some of the better class stores are using more and more incandescent lighting. With the advent of reflector lamps, we find that incandescent is being used to deliver light to the merchandise and fluorescent used to create effects or background lighting. Indications are that we will find some balance in the use of fluorescent and incandescent, but incandescent is far from being a dead issue, and we will probably see more of it applied in stores.

These trends are not necessarily brought about through the lighting industry, but by the methods of merchandising today. Of course, we cannot overlook the de luxe fluorescent lamps. Here we are finding that many of the merchandising operations, restaurants, residences, etc., that would not consider fluorescent before are now turning to fluorescent installations. Therefore, we must be alert in providing the best source and type of equipment for the specific requirements of good merchandising.

We are also experiencing greater acceptance of the mercury lamp as a source for exterior and industrial lighting. Not only is it being used more in street lighting but also we find it being used in street lighting luminaires for the lighting of automobile parking lots, and in floodlights for fabrication yards. Industrial interiors are also finding greater acceptance of mercury, particularly since the advent of the color corrected mercury lamp. We are looking forward to more installations of mercury.

In all those areas where there has been an increase of population and the necessity for new school additions, there has been a good market for school lighting. However, we find that the old schools have been relighting also. This is encouraging and proves that school boards are aware of the benefits accruing from good classroom lighting. We find that fluorescent is generally being installed with careful



The mercury source in high bay equipment is used in large industrial interior.

Jewelry store merchandise is highlighted with recessed reflector lamp equipment. General lighting features incandescent 500 watt ring indirects, and fluorescents light wall cases.

THIS LABEL

Eastern ENGINEERED

IS YOUR GUARANTEE OF THE FINEST

NOW!

90% EFFICIENCY

with Eastern's NEW "N" SERIES

FOR SCHOOLS, OFFICES and PUBLIC BUILDINGS

- 90% EFFICIENCY
- ONE MAN LOUVER INSTALLATION
- EXCLUSIVE "VIBRA-LOK" END SECTION
- SIMPLE LOW COST MAINTENANCE
- AVAILABLE IN 3 CUTOFFS
  35°— 25°, 35°— 45°, 45°— 45°
- FLUORESCENT OR SLIMLINE,
  4, 6 & 8 FOOT UNITS

AND "ZONE OF LIGHT" ILLUMINATION

WITH EASTERN'S NEW "4 Lamp N SERIES"

- LOW BRIGHTNESS — HIGH EFFICIENCY
- EXCLUSIVE "VIBRA-LOK" END SECTION
- PRE-TENSIONED, TEMPERED STEEL SPRING & LOCKING CLIP HOLD PLASTIC OR METAL SIDES IN POSITION
- TWO SECTION LOUVER FOR EASE OF HANDLING & MAINTENANCE — PERMITS RELAMPING OF 2 UNITS FROM ONE LADDER POSITION
- FLUORESCENT & SLIMLINE, 4, 6 and 8 FOOT UNITS

WRITE FOR YOUR COPY OF EASTERN'S NEW CATALOG SHEET WITH COMPLETE DETAILS ABOUT THE "N" SERIES

Eastern ENGINEERED

EASTERN FIXTURE COMPANY

170 VERNON STREET, BOSTON 20, MASS.

The importance of lighting to selling is emphasized in the use of 50 footcandles of light on this used car lot in Baltimore. Two 1500 watt-Benjamin Duo Service floodlights on each pole spaced on 35-foot centers provide the illumination. Also used is a neon belt sign with 60-watt lamps spaced on 18-inch centers, on underside of the sign.

selection of fixtures to deliver not only prescribed footcandles but desirable brightness ratios for comfortable visual environment. We are proud of the improvements and accomplishments made in school lighting which represents spade work done in the past years.

Commerce and industry modernization increases

by John B. Deck, Jr.
Lighting Specialist
Texas Power and Light Company
Dallas, Texas

Typical of the lighting modernization being done in the North Texas area is this installation of three-lamp glass-bottom troffers giving 50 to 60 footcandles in Watt Brothers Drug Store, Gainesville, Texas.

◆ COMMERCIAL and industrial lighting sales by Texas Power & Light Company for the first seven months of this year is 30 per cent above the same period of 1952 in kilowatts of load added.

Lighting modernization in Texas Power & Light Company territory does not appear to be confined to any particular type of establishment—appears to pretty well cover the field, from banks to used car lots.

Our company has, since 1950, conducted active year-round campaigns on commercial, industrial, and school lighting. Customer demonstrations and handout material are employed by our field force of 30 men, supplemented by direct mail of EEI pieces and *Today's Business* magazine to selected groups of customers.

Electrical contractor co-operation has a fundamental part in our program, and it is encouraged by frequent personal contacts and by a Planned Lighting Contest for Electrical Contractors in which cash awards are given to those making outstanding installations in store, office, school classroom, and public building classifications.

Both electrical wholesalers and manufacturers representatives have been extremely co-operative in lighting promotion. They offer considerable assistance to us in giving our personnel further training and in backing up our sales efforts with customers.

Contacts with architects, builders, and owners insures adequate lighting in a high percentage of new buildings.

Our goal has been to have electrical contractors, architects, and customers calling on us for planning assistance with any lighting project they may engage in, and each year has shown greater progress toward achieving this objective.

As far as fixture trends are concerned, we note a steady increase in the use of 'built-in" lighting such as recessed fixtures, coves, valances, downlights, luminous ceilings, and the like, to complement current architectural styles.

The accompanying illustration of a remodeled small-town drug store illustrates some of the current

Remember that Red Hot 1949 Briegel Combination Indenter and Fitting Deal? It broke all records then so here we go again!

For three months only, August, September and October, a Special Package Offer of 200-½" B. M. Couplings and 400-½" B. M. Connectors. Free of extra cost in this package will be 1 No. 606 Briegel ½" Indenter!

Stock up today with this Deal that sold out the last time it was offered.

BRIEGEL METHOD TOOL CO.

GALVA, • ILLINOIS

trends in commercial lighting. Previously, the store was lighted with bare incandescent bulbs on drop cords hung from a high ceiling. Dark walls, floor, and display cases contributed to the dull atmosphere. Dropping the ceiling permitted economical air conditioning and relighting, and a glass front with brick trim completed the change to a modern, more cheerful place to shop.

Merchants stimulated to relight stores

by W. H. Sadler
Commercial Sales Engineer
Georgia Power and Light Co.
Valdosta, Ga.

◆ WE STARTED our lighting and wiring design service for our customers in 1946. At that time materials of all types were hard to obtain, but this gave us an opportunity to work closer with our customers, and to get better acquainted with them. This later proved to be of tremendous value to us in our promotional work, because the customers realized that we had nothing to sell, but were vitally interested in helping them make their stores more attractive and inviting.

Since this increased their business in every case, they have helped this company to grow with them by using more and more of our current. The Valdosta area was well blessed with a normal growth after the war. Then the reactivation of Moody Air Force Base caused an additional growth of several thousand people. Now, the coming of the National Container Corporation's 25 million dollar paper mill has caused our residential area to grow much faster than our commercial areas.

To stimulate the present merchants to modernize and relight, we mailed out hundreds of E.I.P. publications to all types of merchants. We worked up a complete mailing list on all types of businesses and mailed out *Food Service News* and *Today's Business* magazines to a select few each month depending on the types of business covered in these issues. This we thought would leave an idea with the customers and cause them to start thinking until we could contact them and get across our sales stories.

The food stores were the first to realize the importance of remodeling, then the department stores and the men's furnishings stores. Of course, as one type of business remodeled, all of the better stores of that type followed.

There is no particular style of fixture that has been used extensively because we wanted to do the lighting job necessary for each business but vary the appearance of the different stores.

For the first few years our program was accepted by our customers more than by the electrical contractors. There was a tendency by contractors, who were not accustomed to seeing a good lighting job, to want to cut under the other fellow. I'm sure most areas have had this same trouble. By constant work with the architects in helping them design better jobs, helping the customers who did not use architects, and working with the contractors to get closer and have a better working agreement with them, we have finally reached a point where we can specify good lighting and wiring jobs and feel that the customer and the contractor will be happy.

As to schools in this area, we have strayed a little from most engineers' theory on brightness ratios. It has been fifteen years or more since any of our schools have been painted inside. Now, with the job of repainting and relighting them, I feel certain that we won't get another paint job for another ten or twelve years. Therefore, I am using top plate reflectors in practically all schools, mounting the fixtures on the ceiling and hoping that when we get a replacement of lamps we will get the reflectors cleaned, bringing up the over-all level of illumination to some extent.

Even with poor maintenance, we will maintain much better over-all conditions with the top plate reflectors then by suspending the fixtures and using an up and down

In Valdosta, Ga., King's Grill was recently relighted in an effort to lead people toward the counters. A continuous row of troffers was placed from the door over to the soda fountain, and the intensity of light was built up over the counter area. Incandescent lights over the booth area were placed to highlight each booth.

Yes! Electrical Contractors are now in the heating business

U.S.RUBBER'S USKON® Low-Cost Ceiling Panels extend your sales... bring in high profits

As an electrical contractor, you will find Uskon electrical radiant heating to be one of your most profitable items. It actually sells *itself* to *everybody*. Architects like the freedom of design Uskon gives them—no radiators, furnaces, pipes or ducts. Decorators like it for the same reason, and because the panels can be painted over with any ordinary flat paint. Home owners want Uskon because it costs less to install than almost any other kind of heating—and because it gives *quick* heat with a switch or thermostat, is a completely trouble-free heating system.

WHAT DOES USKON MEAN TO YOU? First, Uskon can be quickly and easily applied to new or old ceilings. The home owner heats his house as it grows; when he finishes his expansion attic, he merely orders more panels from you for repeat business. It is a tried and proved product of United States Rubber Company—a name that helps you sell. And Uskon fits in everywhere, in homes, apartments, business offices, commercial and industrial buildings—garages, basements, motels—you name it, Uskon is the *perfect* heating. For complete technical data and cost information write for catalog M3177, Mechanical Goods Division, United States Rubber Company, Rockefeller Center, New York 20, N. Y.

PRODUCT OF UNITED STATES RUBBER COMPANY

Mechanical Goods Division • Rockefeller Center, New York 20, N. Y.

The white way of street lighting, which was only in the uptown business area, has begun to move out 18 blocks on two main streets. New units are equipped with the 20,000 lumen mercury vapor lamps. Average intensity in the old business area 1.5 footcandles; average in mixed business and residential area .09 footcandles.

Trial lighting kit offered Roanoke stores

by J. W. French
Appalachian Power Co.
Roanoke, Va.

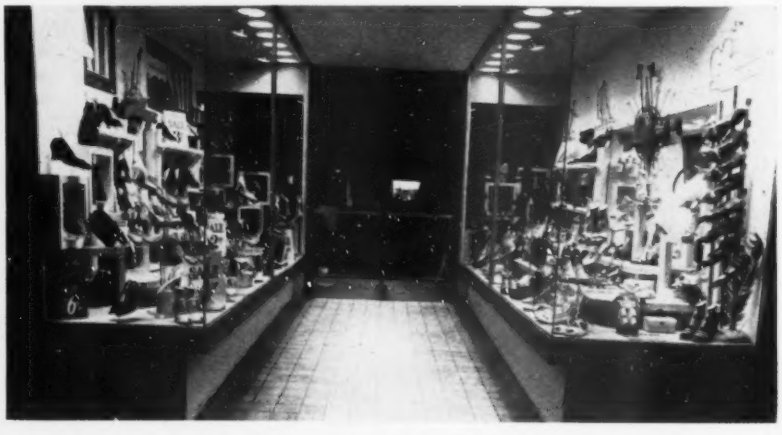
◆ IN RECENT YEARS there has been a marked increase in store modernization in the Roanoke area and a trend to open type store fronts and high intensity window lighting.

During the fall season, the Roanoke Merchants Association sponsors the "Greater Roanoke Days" program in order to stimulate more buying from local and out-of-town people. This program affords us another opportunity to point out the value of good window lighting to the downtown merchants.

One result of our contacts has been the unanimous co-operation of our merchants in using window lighting until 11:15 p.m. each night. This has brought about uniform lighting throughout the downtown business area, and thus eliminated one of our biggest and most difficult problems in downtown lighting.

A similar program is scheduled for the spring, summer, and fall shopping seasons. The opportunity to survey downtown windows and to call the merchants' attention to burned-out and defective lamps has proved very beneficial to the merchants in getting the greatest use and benefit from their equipment. This has given us an opportunity to work more closely with our merchants and obtain their co-operation and goodwill.

As part of our window lighting promotion we make use of a demonstration kit consisting of adjustable



As part of the store lighting program in Roanoke, the Nisley Shoe Corp., was fitted with 25 200-watt recessed spots equipped with louvers and eight 150-watt PAR recessed floods. The fixtures were placed on 18-inch centers, total wattage is 6.2 kw., and footcandles of illumination total 200. Window displaying is the only form of advertising used by this company.

We have been working very closely with the Valdosta State College on the rewiring and relighting of their Administration Building and dormitories. The work done so far has been a complete job and very beautiful.

The success we have had in our program of serving our customers could not have been possible without the co-operation of the various jobbers, salesmen, and manufacturer's representatives, who have worked to help keep our ideas modern and to obtain the materials and fixtures specified.

Our work with all of our architects has been very pleasant, and I feel that we have helped them to turn out better jobs and helped the customers to receive more for their money through this relationship.

distribution. Practically all of the schools in this area have been relighted. Nearly all were wired for three continuous rows in each classroom with only the two inner rows installed to date.

BENJAMIN

Versatile "Magna-Flo" SYSTEMS

go to any length to fit your lighting requirements!

Yes, ONE fluorescent lighting system for all three lengths of T12 Slimline Lamps! It's Benjamin "Magna-Flo" . . . so easily adapted to any size area, any type of location found in industry. No matter where you want fluorescent light . . . high ceilings or low ceilings, assembly lines or drafting rooms, lighting for inspection or mass production . . . whatever the seeing conditions and requirements of the task, there's a "Magna-Flo" System to fill the need exactly. As shown by the chart below "Magna-Flo" is really complete . . . yet so simple to order and specify, because just three channel sizes and four basic reflectors form the backbone of over 300 different fluorescent lighting systems!

Write for Bulletin AD 5705 for complete specification data on Benjamin "Magna-Flo" . . . see how it goes to any length to suit your fluorescent lighting needs!

"MAGNA-FLO"				
3 BASIC CHANNELS	48"	72"	96"	
4 REFLECTORS	OPEN-END	CLOSED-END	OPEN-END W/APERTURES	CLOSED-END W/APERTURES
3 LENGTHS OF T12 SLIMLINE LAMPS	48"	72"	96"	
2 LAMP HOLDERS	2-LAMP "SPRINGLOX"	3-LAMP "SPRINGLOX"		
2 TYPES OF UNITS	INDIVIDUAL	CONTINUOUS LINES		
4 ACCESSORIES	LOUVERS	PLASTIC COVERS (48" only)	GLASS COVERS (48" only)	SHIELDS
6 TYPES OF SUSPENSION	CHAIN	CONDUIT	CABLE	SINGLE-ROD / CEILING / TWIN-ROD

Sold exclusively through electrical distributors.

A Product of Benjamin Electric Mfg. Co.. Dept. Z-1 Des Plaines, Ill., makers of famous Benjamin and Leader Line Lighting Equipment and Sound Signals for Industry, Institutions and Commerce.

BENJAMIN "Springlox"—the exclusive "easy-in easy-out" lampholder which reduces maintenance costs and re-lamping time with a patented spring design . . . "Springlox" is standard equipment with all "Magna-Flo" units.

B-297

lamp adapter sockets and 150-watt PAR floods and spots. The kit is available for trial installations in store windows and fronts where existing equipment is either inadequate or unsuited for window lighting. The kit is especially adaptable for comparing lighting in both sides of a store window, thus effectively demonstrating the superiority of controlled lighting.

Fixtures used in the lighting of Antrim Motors, Inc., Roanoke, Va., consist of 32 two-lamp 48-inch shielded fixtures and 18-150 watt PAR floodlights. The rows of fluorescents are placed on 12-foot centers, and the floods on four-foot centers. Total wattage, 5.9 kilowatts, and 40 footcandles.

Tulsa lighting must be functional and efficient

by M. J. Meyers
Public Service Co. of Oklahoma
Tulsa, Okla.

◆ LIGHTING in the Tulsa trade area is as varied as the industries that Tulsa serves. With a construction budget in awarded contracts of 61 million dollars in 1952, and 38 million for the first 6 months of 1953, lighting in Tulsa is an important business.

Located near the geographic center of the nation, with a yearly mean temperature of 60 degrees, and relying on clean natural gas for fuel, Tulsa is a clean city. It is a modern city.

With six major office buildings averaging 225,000 square feet each now under construction, office lighting is important business in itself. However, major buildings will not account for even fifty per cent of the non-residential construction contracts in Tulsa.

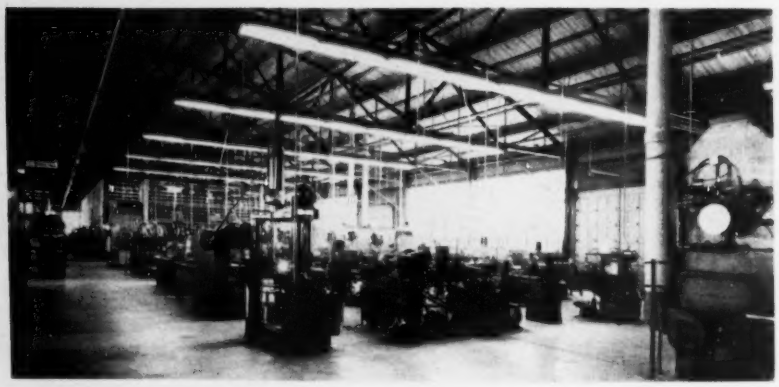
Most of Tulsa's commercial and industrial construction is in smaller buildings such as warehouses, suburban shopping centers, retail establishments, and research laboratories, some of it new construction certainly, but a goodly portion of it in the modernization and expansion of existing facilities.

Typical of this trend toward the modern functional in architecture, wherein the building is made beautiful but also designed to produce maximum efficiency in the use of the space, is the Midwest Chevrolet Agency.

Here was a building well located and in good condition, but very inadequate in size and poorly arranged. The architectural firm of Black and West submitted plans for complete modernization and reorganization of all departments along more useful or functional lines.

The old red brick building was completely covered with Georgia Etowah Marble with Red Verona Marble for the base course and trim. The display windows were replaced with floor to ceiling plate glass making a huge show window of the entire sales floor. Silhouette signs were placed along the front edge of the Marquee with neon tubing inside the letters splashing a soft flood of light on the upper wall of the building against which the sign stands out in silhouette.

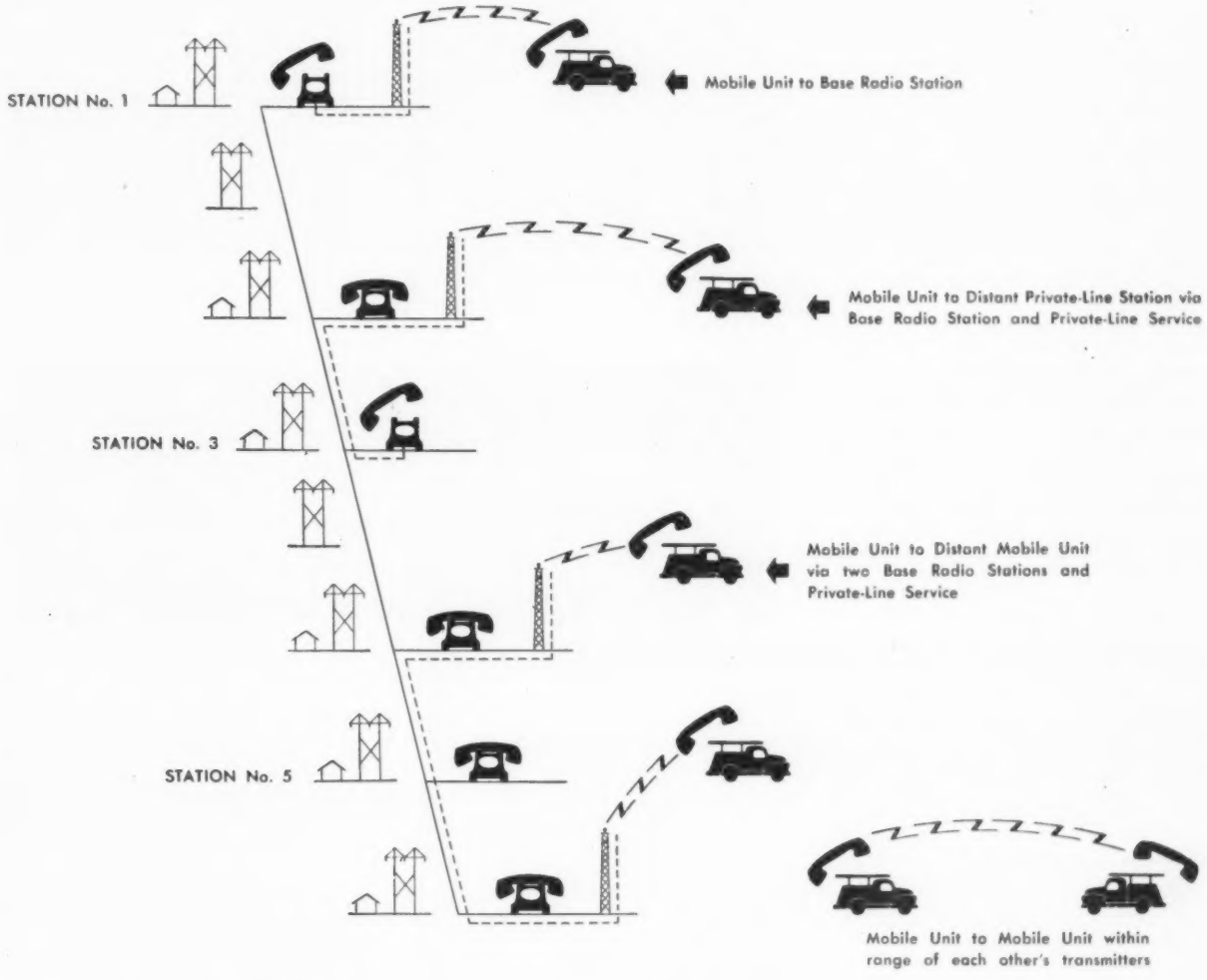
Lighting in the sales and parts departments is done with two-lamp eight-foot slimline troffer units in continuous rows of six feet apart. The repair departments are lighted with closed end industrial units, each equipped with two eight-foot



The Engine Overhaul Section of Spartan Aircraft Plant in Tulsa exemplifies the use of new slotted industrial units to provide an upward component of light.

BELL SYSTEM COMMUNICATIONS

for flexibility all along the line


STATION No. 1
Mobile Unit to Base Radio Station
Mobile Unit to Distant Private-Line Station via Base Radio Station and Private-Line Service
STATION No. 3
Mobile Unit to Distant Mobile Unit via two Base Radio Stations and Private-Line Service
STATION No. 5
Mobile Unit to Mobile Unit within range of each other's transmitters

With integrated mobile radio and private-line telephone service, this Bell System setup is adaptable to many requirements.

Of course, this layout may not fit your particular needs. But Bell System engineers can design one that will. They'll study your operations, then tailor a system to your special requirements.

For Bell System communications you pay a fixed monthly charge—which is complete. It includes continuous maintenance, resources to meet emergencies . . . all the "extras" that would otherwise be your responsibility and expense.

Your Bell Telephone Company will be glad to study your communications problems and needs without charge.

PRIVATE-LINE TELEPHONE

TELETYPEWRITER

MOBILE TELEPHONE

METERING CHANNELS

BELL TELEPHONE SYSTEM

slimline lamps; spacing is on fifteen by fifteen foot centers. Lighting intensity on the sales floor is thirty five footcandles and in the repair shops twenty footcandles.

Another good example in the trend to modern functional is the office space of the Tulsa Federal Savings and Loan Association. Located in a narrow room with a rather low ceiling, every effort was made to create an atmosphere of spaciousness with open informality as the prime objective.

The effect of mass and solidity were created by heavily firring the beams and columns with combed grain oak and the discreet placement of large figured draperies. For relief from the massive, railings are done in aluminum, counter tops are finished in Formica, and slimline lamps provide valence lighting on the draperies. To create the appearance of security, the vault is covered in crab orchard stone.

The big problem of adding a sense of height to the 8-foot, 11-inch ceiling was handled by using a shallow egg crate louvered panel fixture attached directly on the ceiling. The fixture is four feet by eight feet and uses 8-430 ma. slimline lamps. Spacing is one fixture per bay (18 feet by 13 feet), and lighting intensity is fifty footcandles.

Again, a good example of fitting lighting into the ultimate requirements of the building, in Tulsa, is found in the public school buildings. Faced with the task of building 14 new schools since 1950, and with construction costs constantly rising, every dollar had to count. Striking an acceptable compromise between good lighting and low cost, a low brightness, two-lamp unit was selected. Fixtures are suspended 30 inches off the ceiling and run in continuous rows on 8-foot, 6-inch centers. Typical installations are shown in the Bell Junior High School where intensities average forty footcandles.

Industrial users are rapidly accepting the new slotted industrial units that provide an upward component of light. Illustrating this is the recently completed engine overhaul section of Spartan Aircraft Company. The fixture used is a slotted unit utilizing two 85 watt lamps per unit. They are installed in continuous rows on twenty foot centers. Mounting height is twenty feet, and intensity is twenty footcandles of general lighting. This, of course, is supplemented with local lighting at each machine.

Lighting was used to create an atmosphere of spaciousness in the Tulsa Federal Savings and Loan Association.

Remodeling and new lighting of the Mid-west Chevrolet Agency was slanted toward functional lines and efficiency of operation.

F lamp use balanced with incandescents

by James A. Banton
Illuminating Engineer
Tampa Electric Company
Tampa, Fla

◆ IN THIS AREA there has been much activity in all fields of lighting since World War II. Activity has definitely been in the field of gaseous tube lighting—first toward conventional fluorescent, now toward starterless lamps such as slimline and rapid start lamps. The trend is now toward a combination of fluorescent and incandescent rather than almost 100 per cent fluorescent, as in earlier days. People are beginning to understand that while fluorescent has many ad-

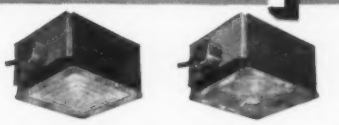
Guth

the complete line of fluorescents and incandescents

When you specify GUTH Luminaires, you get the benefit of more than a half-century's experience in pioneering better lighting. We make good specialized equipment for every lighting need... all *precision-planned* for economical installation and maintenance:

FLUORESCENT: Commercial and Industrial; Glass diffused, Eggcrate shielded, totally indirect, luminous indirect, recessed troffers and exposed lamp types.

INCANDESCENT: Commercial and Industrial; indirect, direct and semi-indirect types; also high bay reflectors, exit and utility lighting units.

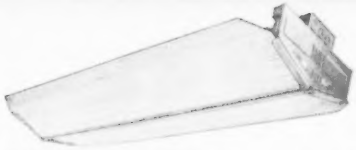


"ALL-SQUARE" ...for recessing. One-piece die-cast frame. Light-leakproof. Widespread or concentrating lens... sizes 6½" sq., 8" sq. & 12" sq. PRE-WIRED. Removable top, and drop hinge bottom for servicing from above or below. Catalog 49.

▲ "ALL-SQUARE"

SEELUX ... totally indirect open bottom Luminaire for for Silver Bowl Lamps, with modern ALZAK concentric louvres; for stem suspension or close mounting. Bulletin 864.

▲ SEELUX®



ARISTOLITE ...hinged glass panels swing open for easy cleaning from floor with handy servicing tool. Also with center Eggcrate louvres. For 2, 3 or 4 40-watt or 2 or 4 4-ft. SLIMLINE lamps; ceiling or suspension, unit or continuous mounting. Write for Bulletins 812 and 820.

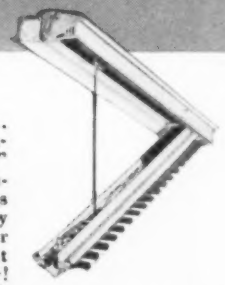
▲ ARISTOLITE®

PEERLITE ... the new, ultra-modern fixture offering great flexibility. Forms any pattern—T, H, □, +, I. 20% uplight. Top plates available for 100% downlight. For 2, 3 or 4 lamps—4′ or 8′ long. Supplied with any type of louver or glass diffuser you wish. (Shown with new GrateLite** Louver-Diffuser.) Bulletin 911.

▲ PEERLITE *

TRUCOLITE ... versatile, highly efficient, semi-direct type; can be used open, with Eggcrate louvres or diffusing glass bottom. For 2, 3 and 4 40-watt lamps... also 2 and 4 4-ft. or 8-ft. SLIMLINE lamps. Ceiling or suspension, unit or continuous mounting. Bulletins 814 and 852.

▲ TRUCOLITE®



GUTHLITE ... the revolutionary "Jacknife" Hinge Luminaire that swings down for easy relamping or cleaning right from the floor! For 2 40- or 2 85-watt or 2 4-ft. SLIMLINE lamps; ceiling or suspension, unit or continuous mounting. Simplest fixture to install. Bulletin 845.

▲ GUTHLITE®

"V" CORRIDOR UNIT ... with GrateLite** Louver-Diffuser. Fills wide hallways and corridors with practical, wall-to-wall light. Lamps shielded by easily maintained GrateLite. Models: 4′ & 8′ for 1 or 2 lamps.

▲ "V" CORRIDOR UNIT

WYTE-LINER ... white inside and outside (takes gloom off ceiling). AIRFLOW channel for longer ballast life. Reflectors 300° Permalux or Porcelain Enamel. Made in 2 and 3 40-watt, 2 85-watt, and 4- and 8-ft. SLIMLINE lamps. Easy to install and clean. Catalog 48.

▲ WYTE-LINER

"LITE-BLOX" RECESSED TROFFERS ... for 1, 2, 3 or 4 lamps: 20-, 40-, 85-watt, or 4-ft., 6-ft., or 8-ft. SLIMLINE. Exclusive end KO's provide exact 48.0"; modular design for unlimited patterns. Wide variety of shielding and diffusing glass panels available; also ALZAK reflectors if desired. Bulletin 869.

▲ "LITE-BLOX" RECESSED TROFFERS

LEADERS IN LIGHTING

Guth

SINCE 1902

GUTH 4-FT. SLIMLINE available in every GUTH fluorescent fixture

- no starters or starter troubles!
- easy to handle Single-Pin lamps!
- light in two steps almost instantly!

* Trademark
**U.S. & Can. Pats. Pend.
Trademark Registered

THE EDWIN F. GUTH CO. / ST. LOUIS 3, MO.

vantages, there is still, and probably always will be, a place in the lighting picture for incandescent.

Lighting of stores, offices, and outdoor recreation areas has been particularly active.

Mercury vapor street lighting has caused much interest. Many installations have been made and others are in the planning stages.

Local school officials apparently are not yet sold on fluorescent lighting or on the 30 footcandles generally recommended for classroom lighting. Some fluorescent has been installed, but six 500-watt three-ring fixtures per class-room, providing approximately 20 footcandles, are being used in the majority of cases. In relamping, 300-watt lamps are sometimes used, reducing illumination to approximately 12 footcandles. The lower initial cost of three-ring fixtures rather than the long time saving in a fluorescent installation may be a determining factor.

Tampa is expanding rapidly and many excellent stores or branch stores are being built in the suburbs. The lighting in most of these new suburban stores is very good. This, of course, has its effect on the downtown stores.

Outdoor recreation lighting is particularly active. Both the city and the county have aggressive sports lighting programs.

This accounting office of the Peninsular Telephone Company, Tampa, is lighted to 55 footcandles of maintained illumination. Lighting is a contributing factor to the pleasant atmosphere.

Mercury vapor street lighting of high intensity has brought about a phenomenal improvement on Tampa's main streets. This daylight view shows the type of standards and units installed on Franklin Street.

Progress focused on schools, streets

by Floyd A. Covington
Illuminating Engineer
City Public Service Board
San Antonio, Texas

◆ OUTSTANDING progress has been made in San Antonio recently in the fields of school lighting and street lighting.

Several new public schools have been built in and around San Antonio in the past few years. There are a like number of new schools still under construction. All of these new schools have, or will have, modern slimline fluorescent lighting in the classrooms, planned to a standard which meets the American Standard for School Lighting.

Also, in the old schools, in classrooms where more critical seeing conditions are involved (sewing rooms, drafting rooms, libraries, etc.), our school authorities have ordered slimline fluorescent lighting installed.

Next to having good lighting in our schools, we are going to have good lighting on our streets at night. We have a very extensive street lighting program underway. A master plan has been prepared for all of San Antonio to have modern street lighting. The lighting of our downtown main business streets is practically completed. Each street has 20,000-lumen horizontal burning mercury vapor lamps and luminaires on 33-foot steel ornamental

COLUMBUS, GA.

Sees the Light

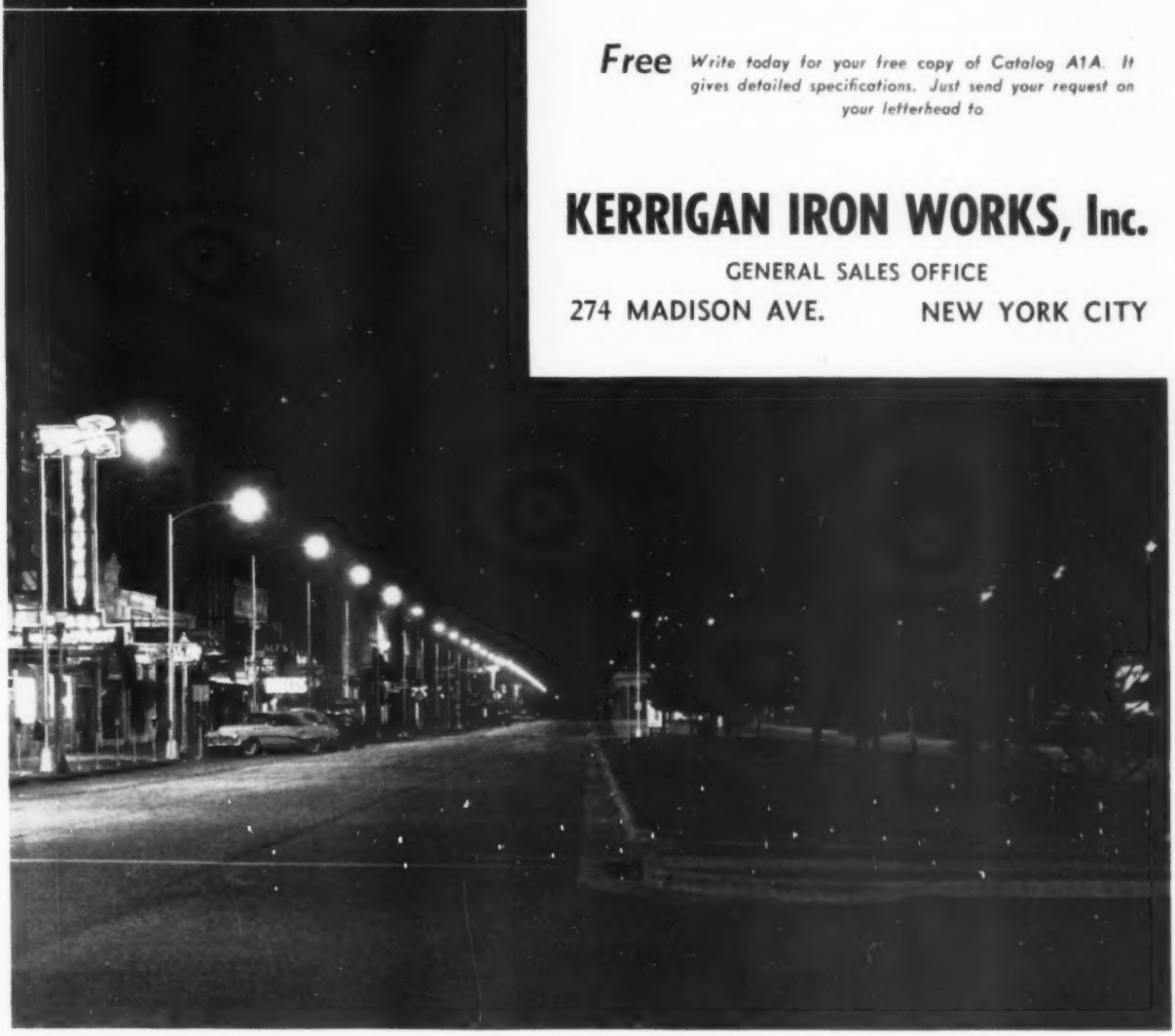
The before and after pictures shown here of Columbus, Georgia, represent an actual example of the modern trend in city street lighting—here is adequate light which in turn will reduce traffic hazards and accident fatalities after dark.

Free *Write today for your free copy of Catalog A1A. It gives detailed specifications. Just send your request on your letterhead to*

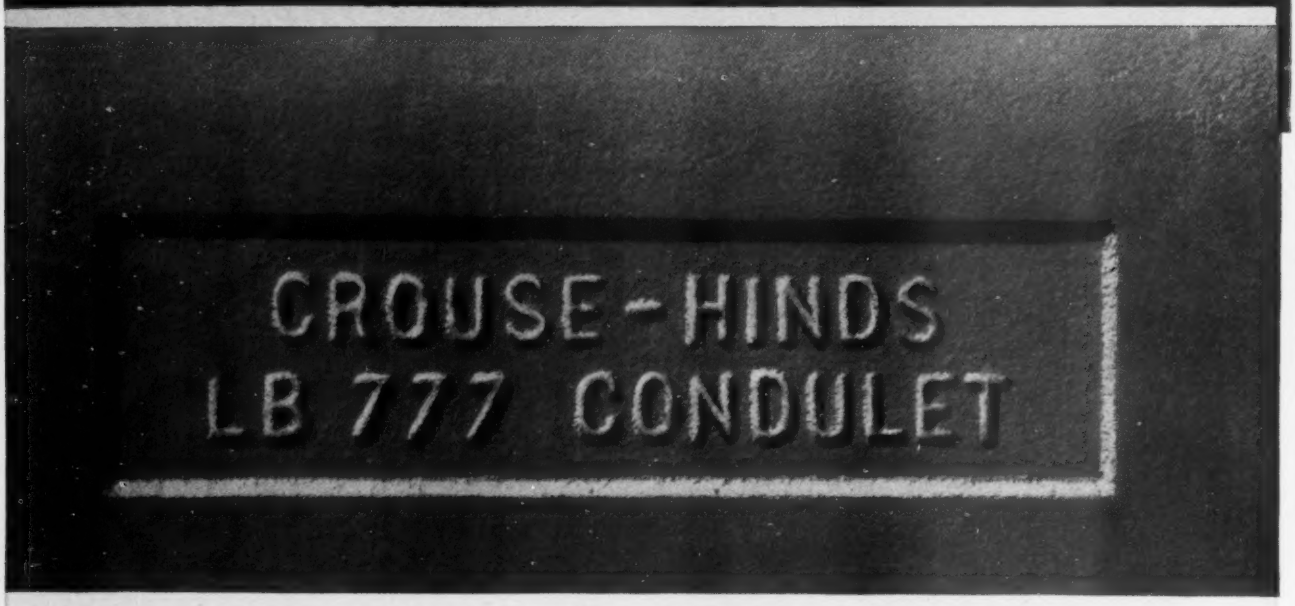
KERRIGAN IRON WORKS, Inc.

GENERAL SALES OFFICE

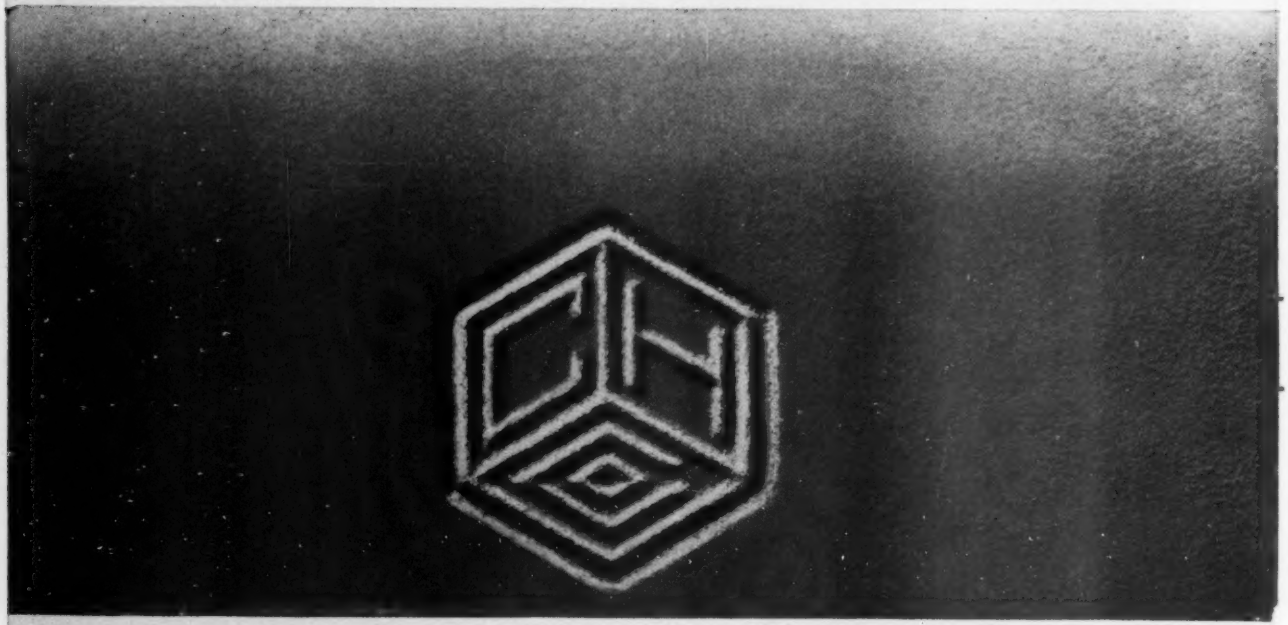
274 MADISON AVE. NEW YORK CITY



When you ask for



Enlarged view showing how Crouse-Hinds trademark CONDULET is cast right into the body of Condulets for your protection. No other manufacturer can use this trademark.



Enlarged view that shows how the Crouse-Hinds Company cube trademark is cast into the body of Condulets or other Crouse-Hinds products. This is an assurance that you are getting Crouse-Hinds quality.

CONDULETS · TRAFFIC SIGNALS ·

CONDULETS... be sure that you get CONDULETS*

There is no substitute for CONDULET quality

CONDULETS have always been of the highest quality. To maintain its position of leadership Crouse-Hinds has a large Engineering Dept. constantly developing new products to add to the CONDULET line and improving old ones. Crouse-Hinds foundry and factory have the latest mechanical improvements and modern machinery. This enables the highly skilled craftsmen to turn out a product that is tops in quality. Constant checking and testing proves that this is true.

When CONDULETS were introduced by Crouse-Hinds in 1905 they completely revolutionized electrical conduit installation practice. This newly invented line of conduit outlet bodies was so superior to anything else on the market that all electricians were soon using them. They were of such high quality that many of those early installations are still in use . . . in tip-top condition.

When imitations appeared on the market, it isn't a bit surprising that many people called all conduit fittings Condulets. Of course, we appreciate this compliment, but it often leads to confusion. It can be very disappointing if you think you are getting CONDULETS and later discover that the installation was made with a product of some other manufacture.

CONDULET is not a common noun. It is a coined word registered in the U. S. Patent Office and designates a product made only by Crouse-Hinds Company.

You can be sure of getting CONDULETS by buying from one of Crouse-Hinds authorized electrical distributors. They are ready to serve you throughout the country. Ask for CONDULETS. Then look for the word CONDULET or the C-H Co. cube trademark on the body. These trademarks appear on every genuine CONDULET.

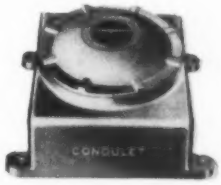
When you ask for Condulets
be sure that you get CONDULETS

Type LB
Obround Condulet

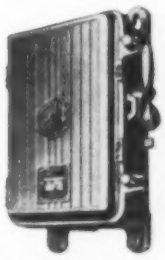
Type EVA Explosion-Proof
Lighting Fixture

Type GUAC Explosion-Proof
Junction Condulet

Type AREA
Plug Receptacle



Type GUB Explosion-Proof
Junction Condulet



Type WMK Watertight
Safety Switch Condulet

Type FSC Tumbler
Switch Condulet

Type EFS Explosion-Proof
Pilot Light Condulet

*CONDULETS are made only by CROUSE-HINDS

CROUSE-HINDS COMPANY
Syracuse 1, N. Y.

OFFICES: Birmingham — Boston — Buffalo — Chicago — Cincinnati — Cleveland — Dallas — Denver — Detroit — Houston — Indianapolis — Kansas City — Los Angeles — Milwaukee — New Orleans — New York — Philadelphia — Pittsburgh — Portland, Ore. — San Francisco — Seattle — St. Louis — St. Paul — Tulsa — Washington.
RESIDENT REPRESENTATIVES: Albany — Atlanta — Baltimore — Charlotte — Corpus Christi — Reading, Pa. — Richmond, Va. — Shreveport
Crouse-Hinds Company of Canada, Ltd., Toronto, Ont.

CONDULET
First in the field
STANDARD OF QUALITY

A Nationwide Distribution Through Electrical Distributors

FLOODLIGHTS · AIRPORT LIGHTING

This scene at the intersection of San Pedro Avenue and Main Avenue in San Antonio is lighted by the new mercury vapor street lighting.

standards spaced an average of 82 feet apart, staggered. This gives an intensity of approximately 2 footcandles of illumination.

Our next streets to be lighted are the secondary business and primary traffic streets, a distance of about 2 miles in all directions out from the downtown district. These, too, will have 20,000-lumen horizontal burning mercury vapor lamps and luminaires, but on upsweep brackets mounted 30 feet high on existing wood poles.

The location of the wood poles, in most cases, determines the spacing distance of the lights with a selected intensity of 1 footcandle of illumination or better, being another determining factor.

These secondary business and primary traffic streets are to be lighted as fast as the plans can be drawn and the work can be done.

Old World atmosphere enhanced with lighting

by K. J. Wheelahan, Jr.
New Orleans Public Service, Inc.
New Orleans, La.

◆ NEW ORLEANS has long been famous for its old world atmosphere, fine restaurants, and quaint architecture, but at the same time has kept pace with the new as well as retaining the old. New Orleans is as proud of its modernization and position as the industrial center of the South as it is of preserving the past.

An important part of this modernization has and will continue to be the use of the latest in lighting. Everything points to a continued use of good lighting as the city continues to progress.

Building owners are aware that tenants expect and demand adequate and comfortable lighting, and a continual program of improved office lighting is in effect.

Many New Orleans stores are planning extensive remodeling programs, and planned lighting is an important part of these plans. The trend in store lighting is toward the use of both fluorescent and incandescent sources to achieve unusual effects.

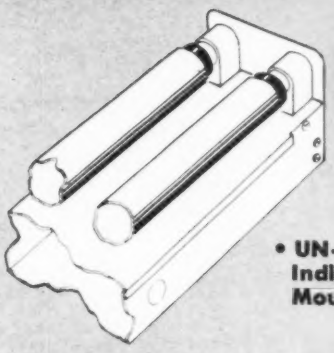
The use of bare lamps, both standard and slimline, are evident in bargain stores, as well as in drug and grocery stores. Except where there are very high ceilings, shielded fixtures offer the only means of lessening glare and are being installed in most new or remodeled stores.

The City Hospitals and Institutions have kept pace with progress, and without exception every hospi-

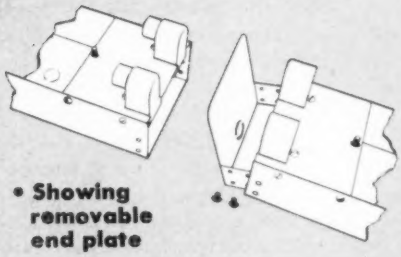
(*Please turn to page* 104)

The problem of providing excellent illumination for clerical and bookkeeping work and to incorporate the lighting design into the over-all decorative plan for an attractive and distinctive office for the Homestead Savings Assn., was solved by installing 16 two-lamp 96-inch slimline recessed troffers with prismatic lenses in a unique rectangular pattern to provide 50 footcandles of low-brightness, glare-free illumination.

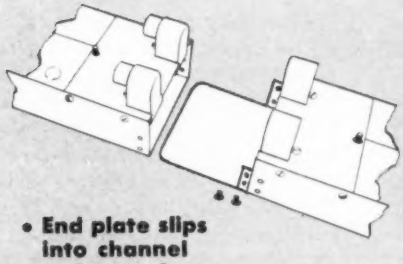
A Typical Illustration of Lithonia Efficiency
CATALOG NUMBER - U. N. - 296



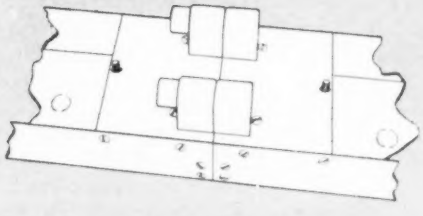
• UN-296 Individually Mounted



• Showing removable end plate



• End plate slips into channel to be used as connector strap

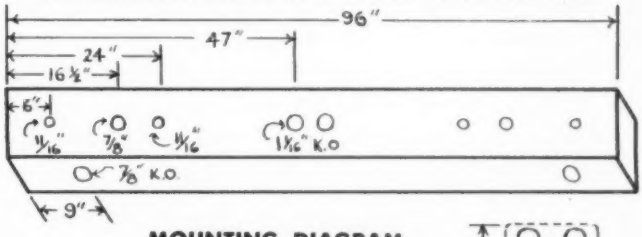


• Fixtures tied together with combination connector strap and end plate for continuous row installation with open wire-way

Lithonia Leads the way in Lighting

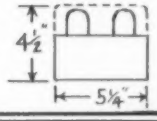
For the newest type of efficient lighting, count on LITHONIA for proven results. LITHONIA combines smart, modern design at lowest prevailing prices.

- AN ALL PURPOSE, ALL DOWN LIGHT FIXTURE
- MULTIPLE PUNCHING AND KNOCKOUTS FOR EFFICIENT INSTALLATION
- NO EXTRA PARTS OR HARDWARE NEEDED
- SUITABLE FOR SUSPENDED OR FLUSH MOUNTING
- 350° OVEN BAKED GLEAM WHITE ENAMEL
- RUST PREVENTIVE OAKITE METAL TREATING PROCESS MEETS U. S. GOV. SPEC. 600 HOUR SALT SPRAY TEST
- SLIMLINE AVAILABLE IN 4—6 OR 8 FT. LENGTHS

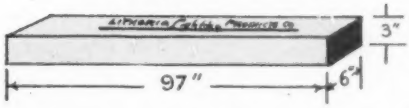


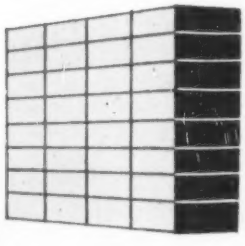
MOUNTING DIAGRAM

NOT TO SCALE



- Easy to stack
- Easy to handle
- Compact storage





Carton Dimensions 6"x3"x97"

*Sold Only Through Recognized Electrical Distributors

Lithonia LIGHTING PRODUCTS CO · LITHONIA, GA.

Special announcement

EFFECTIVE with this issue of ELECTRICAL SOUTH, the Appliance Section has been discontinued. In its place, the publishers of ELECTRICAL SOUTH have introduced to the appliance trade of the South a full-sized magazine devoted entirely to the problems and activities of the Southern appliance trade under the name of *Southern Appliances*.

This change has been made in order to provide the appliance trade with a faster-paced, more complete editorial coverage, as well as to provide full circulation coverage of the Southern market. The upward sales trend of appliances in this rapidly growing market makes it economically feasible to give the great Southern appliance trade its own distinctive publication, devoted exclusively to the merchandising of appliances, radio, and television. It will serve as a medium for the exchange of ideas and information, and will provide the key to wider distribution and bigger appliance sales throughout the South. Its primary purpose will be to help appliance dealers to become better appliance merchandisers. It will devote considerable space to the cooperative promotions of dealers, wholesalers, and utility companies.

Changes in ES, too

The discontinuance of the Appliance Section in ELECTRICAL SOUTH will enable the editors to provide a more complete coverage of the electrical construction industry of the South than was possible heretofore. In addition to this coverage of the activities of electrical contractors, a considerable amount of space will be devoted to the engineering and operating problems and practices of the electric utility companies of the South.

The specific problems encountered in the South in transmission, distribution, metering, and utilization will be covered in special articles written by men familiar with the Southern problems.

Readers of ELECTRICAL SOUTH will find each issue filled with news and features relating particularly to the problems encountered in the South. Each issue will contain material designed to help the electrical contractors, the industrial electrical maintenance engineers, and executives and engineers of the light and power companies.

Contributions from our readers describing electrical installations of special interest or new and more efficient operating methods are welcome—both from electrical contractors and light and power company engineers. Payment is made at customary rates.

INDUSTRY NEWS

Timely items relating to contractors, light and power companies, electrical wholesalers, electrical manufacturers and their agents.

NEMA plans national commercial industrial relighting program

PLANS for the first national certified relighting program for commercial and industrial premises have been approved, it is announced by the National Electrical Manufacturers Association (NEMA).

For the past year a committee of the Industrial and Commercial Lighting Equipment Section of NEMA has been engaged in preparing the program. Its recommendations were unanimously accepted by the members attending the section's recent semiannual meeting and funds to cover the operation until January 1, 1955, were voted.

A National Lighting Bureau is to be set up at NEMA headquarters in New York City to work with local lighting bureaus. In the initial stages the National Lighting Bureau will set up a small number of pilot activities to test out every phase of the program, after which it will be promoted on as wide a scale as possible.

Essentially the relighting program is designed for all-industry participation. An executive committee from the NEMA section will invite the assistance of advisors from the several national electrical associations and others. Local bureaus will also be organized on an all-industry basis.

If possible, the first pilot operation will begin this fall and all will be in operation by next spring. Already requests have been received for consideration as pilot locations.

Inasmuch as the NEMA section's previous Test City market research had disclosed that the lighting in more than 85 per cent of the commercial and industrial interiors was substandard, the present program was designed to promote relighting that is at least up to the minimum accepted standards and practices. This is to be accomplished through certification of installation. The minimum standards and practices are those published by the Illuminating Engineering Society.

Certifying authorities will be set up by the local bureaus to examine plans prior to installation. Plans that meet the minimum standards and practices will be stamped for certification and when the installation follows the plans, the installing contractor may so certify and warranty the job. Certificates will be countersigned by the certification authority.

Simplified methods for determining compliance have been developed and every effort has been made to reduce paper work to the minimum. Installations only and not equipment will be certified. Minimum standards and practices will cover both quantity and quality.

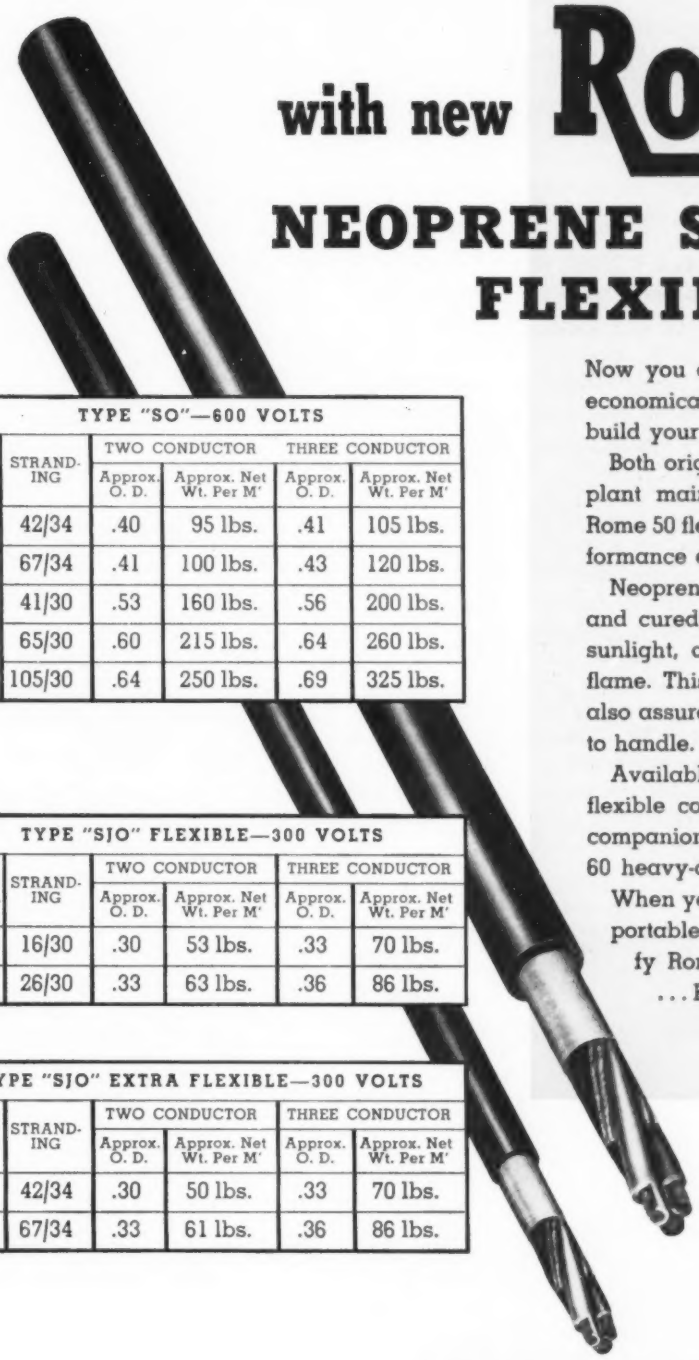
A survey of utilities and wholesalers disclosed an almost unanimous desire for a sales training program designed to fit the problems of the relighting market. The National Lighting Bureau is authorized to develop such a sales training manual after field investigation of the problem attending the sale of relighting.

At the same time written courses in lighting techniques will be pre-

Assure your customers long, trouble-free service

with new Rome 50

NEOPRENE SHEATHED FLEXIBLE CORDS



Now you can offer your customers a line of economically priced flexible cords that will build your reputation for quality.

Both original equipment manufacturers and plant maintenance men will find that new Rome 50 flexible cords will protect product performance and prevent costly plant downtime.

Neoprene jackets, specially compounded and cured, provide exceptional resistance to sunlight, acids, oils, moisture, abrasion and flame. This careful compounding and curing also assure a more flexible cord that is easier to handle.

Available in types SO and SJO, Rome 50 flexible cords are economically priced as a companion line to Rome's quality proven Rome 60 heavy-duty cords and portable cables.

When your customers' requirements call for portable conductors, it will pay you to specify Rome . . . Rome 50 for regular service . . . Rome 60 when the service is tough.

TYPE "SO"—600 VOLTS

SIZE A.W.G.	STRANDING	TWO CONDUCTOR		THREE CONDUCTOR	
		Approx. O. D.	Approx. Net Wt. Per M'	Approx. O. D.	Approx. Net Wt. Per M'
18	42/34	.40	95 lbs.	.41	105 lbs.
16	67/34	.41	100 lbs.	.43	120 lbs.
14	41/30	.53	160 lbs.	.56	200 lbs.
12	65/30	.60	215 lbs.	.64	260 lbs.
10	105/30	.64	250 lbs.	.69	325 lbs.

TYPE "SJO" FLEXIBLE—300 VOLTS

SIZE A.W.G.	STRANDING	TWO CONDUCTOR		THREE CONDUCTOR	
		Approx. O. D.	Approx. Net Wt. Per M'	Approx. O. D.	Approx. Net Wt. Per M'
18	16/30	.30	53 lbs.	.33	70 lbs.
16	26/30	.33	63 lbs.	.36	86 lbs.

TYPE "SJO" EXTRA FLEXIBLE—300 VOLTS

SIZE A.W.G.	STRANDING	TWO CONDUCTOR		THREE CONDUCTOR	
		Approx. O. D.	Approx. Net Wt. Per M'	Approx. O. D.	Approx. Net Wt. Per M'
18	42/34	.30	50 lbs.	.33	70 lbs.
16	67/34	.33	61 lbs.	.36	86 lbs.

It Costs Less to Buy the Best...
and it's Profitable to Sell the Best

ROME CABLE
Corporation
ROME · NEW YORK
and
TORRANCE · CALIFORNIA

ROME CABLE ROME, N.Y.

pared. The first course will cover the elementary phase of lighting and the advanced course will take up design through a series of actual cases.

All costs for operating the National Lighting Bureau and national promotion are being carried by the Industrial and Commercial Lighting Equipment Section of NEMA. This is the Section's first market development program and according to its chairman, W. P. Lowell, Jr., it has received enthusiastic encouragement from every other branch of the electrical industry.

Arrow-Hart & Hegeman changes location

ANNOUNCEMENT was made recently of the removal of the Atlanta office and warehouse of Arrow-Hart & Hegeman Electric Company to 363 West Peachtree Street. The firm's new telephone number is CYpress 8544.

Georgia Power to get first Rome transformer

THE GEORGIA Power Company will receive the first transformer to be built and shipped at the new General Electric Company plant at Rome, Ga.

The 5,000-kva three-phase transformer is to be shipped during the first quarter of 1954. It will be installed in the power company's Atlanta division.

Now under construction, the 25 million dollar Rome plant is scheduled to be completed in early 1954. Power transformers rated 501 to 10,000 kva will be made in the plant with a new near-conveyor-type system. Manufacturing will begin as sections of the new plant are completed.

Moe Light, Sprayit Co., form Thomas Industries

IT WAS ANNOUNCED recently by Lee B. Thomas, president, that at a recent meeting of the stockholders of Moe Light, Inc., the plans for the merger of Moe Light, Inc., Fort Atkinson, Wis., and the Electric Sprayit Co., Sheboygan, Wis., were formally approved. This action thus finalized the merger of the two companies, in that similar approval by the stockholders of Electric Sprayit Company was given in an earlier meeting.

The newly created company will be known as Thomas Industries, Inc. Mr. Thomas announced that the new board of directors will consist of the present nine Moe Light directors in addition to two directors representing the present Sprayit interests. Moe Light will continue operations under the same name, as a division of Thomas Industries, Inc.

Billy Burke wins Miller Ivanhoe sales contest

A. C. "BILLY BURKE," sales manager of the General Electric Supply Co., Norfolk, Va., attributes his 62 years of happiness to a dual career involving electricity and minstrelsy. As he prepared to take a six-day trip to Mexico, which he won as first prize for the Southeast and Southwest sections in the Miller-Ivanhoe Industrial Lighting Equipment Prize Contest, "Billy"

A. C. "Billy" Burke

recalled some of his varied experiences.

About 45 years ago, "Billy," as he prefers to be called, found that his job with the Richmond Power Company was an outlet for his deep interest in electricity.

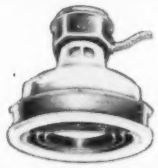
He was unable to get into military service in 1918, but in order to "do his bit" he obtained a leave of absence from his work in Richmond to entertain at Camp Lee and other installations.

"I did this because people said I was funny," Billy explained sagely. He clowned his way to a spot on a New York vaudeville stage at the time that Olson and Johnson, Phil Silvers, and others were beginning to rate brighter lights.

However, Burke says that one of his greatest thrills was in connection with a minstrel show in which "Amos" of Amos and Andy broke into show business.

After a brief career in show business, he left the footlights to take a salesman's assignment with the Tower Binford Electric and

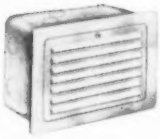
J. R. Carmichael, left, manager of purchases and stores for Georgia Power, presents D. B. Lawton, manager of the Rome G-E plant, with the purchase order for the first transformer to be completed, as J. C. Ager, manager of General Electric's Atlanta office, looks on.



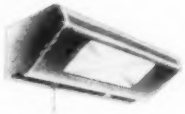
DERBY DOWNLIGHTS—Endless applications. 7″ diameter recessing downlights, available with matt black removable louver or with Holophane Controlens*. UL approved.

DUO-FRAME UNITS—Recessing units with Holophane, Corning, and Phoenix glassware. Two-piece frame. Drop hinges. Vertical and horizontal lamp mounting units. UL approved.

EXIT SIGNS—Surface, recessing, top and end mounting units. Metal stencil sign faces, backed by red glass. HOT-BONDED lustre aluminum finish. UL approved.



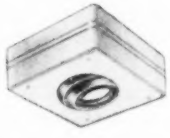
NITE LITE—One-piece, die-drawn recessing box. Louvered face with concealed hinge for easy servicing. Stainless steel or baked lustre aluminum finish. UL approved.



BED LAMP—Direct-indirect hospital unit. For three 50/60 watt lamps. Stainless steel finish. Controlens* panel in bottom, diffusing glass in top. UL approved.

PLEXOLINE® ACCENT UNITS—For use singly or with PLEXOLINE linear units. Adjustable and fixed units. Louvered body provides spill light on sides. UL approved.

TROFFER ACCENT UNITS—Self-contained square recessing units, adjustable or fixed, flange or snap-in type. May be used singly, within or at end of troffer runs. UL approved.



SURFACE MOUNTED ACCENT UNITS—Adjustable units or fixed units with Holophane Controlens*. May be used singly or with VIZ-AID® or LENOX® fixtures. UL approved.

RECESSING CORRIDOR UNITS—Available with two optical characteristics: asymmetric and symmetric. Flange or snap-in. Holophane* prismatic glass globe. UL approved.

*®HOLOPHANE CO., INC.

A complete line of incandescent units by Day-Brite

When the name "Day-Brite" is mentioned, you think of the nation's finest line of fluorescent fixtures. This is to remind you that there's an equally fine line of Day-Brite incandescent units—giving you the advantages of Day-Brite quality and design for every piece of equipment called for in any type of lighting job.

See your nearest Day-Brite representative

ATLANTA 1, GEORGIA
Cecil Cannon & Oren Ruff, Jr.
P. O. Box 1304

BALTIMORE 17, MARYLAND
Sam Masland
625 West North Avenue

CHARLOTTE 2, N. CAROLINA
Gordon Wells
212 Builders Bldg.

CORAL GABLES, FLORIDA
James Foerster
1533 Delgado Avenue

DALLAS 2, TEXAS
H. A. Auchter
102 Thomas Bldg.

HOUSTON 6, TEXAS
N. O. Reed
1602 West Main Street

LUBBOCK, TEXAS
Stewart Norris
P. O. Box 446

MANDARIN, FLORIDA
Joseph N. Crevasse
P. O. Drawer 7

MEMPHIS 3, TENNESSEE
Munding Elec. Sales Agency
186 Monroe Ave.

NEW ORLEANS 12, LA.
Paul Hogan, Jr.
342 International Trade Mart

RICHMOND 24, VIRGINIA
Earl Dagenhardt
4000 Maury St.

"DECIDEDLY BETTER"
DAY-BRITE
Lighting Fixtures

Day-Brite Lighting, Inc., 5435 Bulwer Ave., St. Louis 7, Mo.

In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario

377

Manufacturing Co., of Richmond. He remained with this firm for 20 years, rising to the position of assistant to the president.

In 1940 Billy accompanied a juvenile performer, who he had discovered on a Carolina tour, to Hollywood, but he remained only one year in the cinema capital with his discovery. Returning to Virginia, he joined the General Electric Supply Co., at Norfolk.

He says that he has three more years of activities in the business world after which he will "go to Virginia Beach to take it easy." Mr. Burke smiled as he said, "then, my life will be complete as I planned it 50 years ago."

Okonite issues new technical data book

IN VIEW of the tremendous increase in the use of high voltage cable, a new 128-page book, OK-1075, entitled "Rubber-Insulated High Voltage Power Cables Up to 35,000 Volts" should be of special interest. This is the first technical publication dealing with rubber-insulated cables for use at such high voltages. The advantages, economies and versatility of this type cable are carefully discussed.

The book contains complete technical information, including current carrying capacity tables, aluminum conductor conversion factors, formulas for calculating the effects of shielding, dimensional data on bare conductors and single conductor cable constructions, installation recommendations, methods for determining conduit size, fill and area, and methods for determining bending radii and pulling tensions.

Of particular interest are the 29 pages of detailed drawings and instructions for splicing and terminating high voltage rubber-insulated cables. These include straight, tee and trifurcating splices, ascending and descending terminations, in addition to terminals with and without potheads.

The contents of the book are based on more than 25 years' service experience with rubber-insulated cables operating as high as 35,000 volts. Copies may be obtained by writing The Okonite Company, Passaic, New Jersey.

NISA members show decline in profits

NET PROFITS of members of the National Industrial Service Assn., Inc., the national trade association of electrical equipment repair and rebuilding shops, declined more than one percentage point in 1952 from the previous year, according to figures released today by the NISA Sales Survey Committee.

NISA Executive Secretary Fred. B. Wipperman announced that among corporation members of the Association, the drop was from 6.3% of sales in 1951 to 5% in 1952 while the figure for partnerships and proprietorships fell from 22.4% to 21%. The partnership-proprietorship figures do not include compensation for officers.

The average net profit before federal income taxes for NISA members both incorporated and unincorporated dropped from 10.8% of total sales in 1951 to 9.3% in 1952.

The NISA survey is based on figures received from 134 of the Association's 1270 member firms. Howard A. Lilly, Tampa Armature Works, Tampa, Fla., is chairman of NISA's Sales Survey Committee.

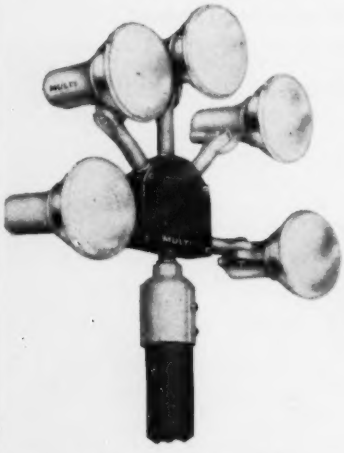
Moses says TVA rates unfair to other states

AT LEAST ONE great industry, and probably more, would have located in Arkansas or neighboring states outside TVA except for tax-subsidized power.

That's the challenge that one of the electric industry's most colorful spokesman, C. Hamilton Moses, brought before the Council of State Chambers of Commerce in Hot Springs, Ark., recently. Mr. Moses is chairman of the board of Arkansas Power & Light Company, and for more than 30 years has been an electric industry leader.

"Why should the Tennessee Valley be preferred over other states, by having preferential rates to induce these big concerns, employing thousands of people, with millions

TWO **MULTI** LIGHTING UNITS WHICH WILL GIVE LASTING CUSTOMER SATISFACTION



CLUSTER MULTI MOUNTS OF WEATHERTITE PAR LAMPHOLDERS. CAN MOUNT ON 2" PIPE AS SHOWN OR ON TOP OF LUMENALL POST LIGHT.

THE LUMENALL POSTLIGHT

20" DIAM. PORCELAIN ENAMELED REFLECTOR FOR 500 WATT LAMP MOUNTED AT TOP. CAST ALUMINUM HARP SLIPS OVER 2" PIPE. CAT. NO. 3870.

COMPLETELY DESCRIBED IN NEW BULLETIN "G"

MULTI ELECTRIC MFG. INC.
4223 W. LAKE ST. CHICAGO 24

in payroll, to locate in its borders. These subsidized rates help Tennessee get industry, but it punishes all non-TVA states."

In presenting his case for business operation of electricity, Moses revealed evidence that the TVA is (1) losing money; (2) not paying its share of taxes; and (3) selling tax-subsidized power to industries which gives the TVA area unfair advantages over neighboring states.

Mr. Moses disclosed that some "nine big private corporations get 25% of TVA power." Mr. Moses contends that these private businesses are able to pay a realistic price for power, and should not be favored over their competitors.

Mr. Moses cited a number of instances which showed that industry had located in Tennessee only because of preferred power rates. He said that fully-taxed private business can not compete against the Government which allows its power operations to go with only token taxes and interest-free money.

NEC recognizes new type of underground cable

ACTION by the National Fire Protection Association at its 1953 Annual Meeting resulted in the recognition in the National Electrical Code of a new type of cable known as Type UF underground feeder and branch-circuit cable. This Code recognition was based upon fact-finding investigation and report by Underwriters' Laboratories, Inc., on a cable (both single- and multiple-conductor designs) which employed materials that were resistant to corrosion, fungus, and moisture.

When judged under the requirements of the Laboratories' present Standard for Nonmetallic-Sheathed Cable, and multiple-conductor design was found to be eligible for recognition as non-metallic-sheathed cable.

The more important features of the fact-finding investigation included impact, crushing, and overload tests. The results of these tests were such that the product was judged to be suitable for its intended use.

Because of the newness of the product, complete requirements for

NEW

VERSATILE LOW COST FISHER-PIERCE SERIES 64400

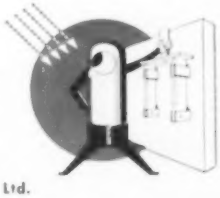
PHOTOELECTRIC CONTROL FOR OUTDOOR LIGHTING

The new Fisher-Pierce Series 64400 Photoelectric Control is a small, compact, lightweight 575 watt unit readily adapted to a great many mounting requirements. Appropriate accessories are available for mounting on luminaire, wood pole or cross arm, ballast, pole top, standard, mast arms, etc.

Because of its low initial cost as well as savings in wiring, other materials, and labor, it is economically feasible to use one F-P 64400 Control per lamp.

The control employs the well-known Fisher-Pierce basic circuit which has been proven by the experience of hundreds of utilities in thousands of installations. Such design improvements as etched circuitry have permitted low unit cost without sacrifice of high quality.

WRITE FOR DESCRIPTIVE LITERATURE



The FISHER-PIERCE CO., Inc.
59 Pearl St., So. Braintree, Boston 85, Mass.

EXPORT: PHILIPS EXPORT CORP. 100 E. 42nd STREET NEW YORK 17, N.Y.

IN CANADA: NORTHERN ELECTRIC CO., Ltd.

LIGHTING

Means Extra Profits
For Contractors
... New Housing
"Starts" Are Still
Up ... Every New
House Should Have
Lighting Fixtures

•

GLATTHAR

Means Extra Style
Extra Variety ...
Everything You Want
In Residential Lighting
Fixtures

•

START NOW

Get Our Catalog
Filled With New
Ideas in Lighting

•

GLATTHAR LIGHTING CO.
949 E. 72nd ST.
CLEVELAND, OHIO

Type UF cable have not yet been developed; but, on the basis of the foregoing, the Laboratories has recognized the cable which was the subject of the fact-finding investigation.

This material will be listed under the Label Service of Underwriters' Laboratories, Inc.

Whitfield named general manager McDonald firm

R. S. McDONALD, president of the McDonald Electric Co., Inc., Miami, Fla., recently announced the appointment of J. E. Whitfield, Sr., as general manager of the firm. Mr. Whitfield was formerly vice-president of Appleton Electric Co., Chicago.

Mr. McDonald stated that there was no basis for recent rumors concerning the operation of his business.

"I am glad to report," he said, "that the McDonald Electric Company, Inc., is *not being sold* and will be operated as in the past, both in Miami and Ft. Lauderdale."

He reported that the company had made many changes in personnel, including Mr. Whitfield's appointment, which they hope will improve the firm's services to its customers.

"I am remaining as active president of the McDonald Electric Company, Inc., and principal stockholder for, I hope, a good many years," Mr. McDonald concluded.

G-E establishes two new departments

THE FORMATION of two new G-E departments, a Specialty Transformer Department and a Ballast Department, has been announced by H. A. MacKinnon, vice-president and general manager of the General Electric Company's Component Products Division.

Another step in the company's decentralization program, the move divides the former Specialty Transformer and Ballast Department in two separate organizations.

Power for lighting seen double by 1962

THE NATION will need almost twice as much electric power to light its homes, businesses, and streets ten years from now as is used today, Walter H. Sammis, president of the Edison Electric

DISTRIBUTOR CATALOG—Anderson Brass Works, Birmingham, Ala., manufacturers of aluminum and bronze power connectors, clamps, fittings, and accessories for substation, transmission and distribution lines, recently announced the availability of their new distributor catalog. Standing on the left is C. E. Bitzer, distributor division sales manager, and on the right, D. M. Sanders, regional supervisor, reviewing the new catalog with R. E. Schuler, president of the company.

Thanks—

to our ever increasing number
of customers for their hearty acceptance
of the many specialties we make
for the electrical industry

B&C METAL STAMPING CO.

BURRUS & MATTHEWS
2810 Canton Street, Dallas, Texas
Texas, Oklahoma, New Mexico

E. J. HAGAN
3820 Louisiana Avenue, New Orleans, Louisiana
Louisiana

ROBERT W. FISHBURNE
116 Third Street, South, Richmond, Virginia
Virginia

J. T. RIDGEWAY
4301 Wentworth Road, Baltimore, Maryland
Maryland and District of Columbia

D. W. McINTOSH
20 North Wacker Drive, Chicago, Illinois
Illinois, Wisconsin, Northern Indiana

OTHER TERRITORIES
CONTACT OFFICE DIRECT
590 Means Street N. W.
Atlanta, Georgia

M. B. SQUIRES COMPANY
1202 Grant Building, Pittsburgh 19, Pennsylvania
West Virginia, Western Pennsylvania, Ohio

CARL E. LUDOVICI
431 Owen Road, Wynnewood, Pennsylvania
E. Pennsylvania, Delaware, S. New Jersey

CARLL W. STRONG
915 Ellwood Street, Orlando, Florida
Florida, Central Georgia & S. Alabama

WALTER M. HINSON
1160 Johnson Ferry Road, N. E., Atlanta, Georgia
Georgia, Alabama, Eastern Tennessee

W. J. O'BRIEN
Exchange Building, Memphis 3, Tennessee
Tennessee, Mississippi, Arkansas

UNION'S
Complete Line
of
PIN TYPE
SOCKETS

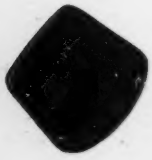
No. 43308-18
MEDIUM

No. 44408
INTERMEDIATE

No. 11108
CANDELABRA

NOW AVAILABLE WITH

TWO NEW
FEATURES!



HANDY WRENCHES
SUPPLIED WITH ALL SOCKETS
MEDIUM — INTERMEDIATE — CANDELABRA

One wrench with each carton of sockets at no extra cost. Wrenches molded of attractive RED plastic for extra eye appeal, makes socket assembly easier, more convenient.

CAP THREADS IN MEDIUM
BASE SOCKETS Completely
"MOLDED-IN"

Provides smooth running, trouble free threads . . . can't be stripped even after repeated re-use of sockets.

All UNION Sockets and Streamers available for prompt delivery from factory and 12 warehouse stocks.

UNION INSULATING CO.
PARKERSBURG, WEST VIRGINIA

Institute, told the National Technical Conference of the Illuminating Engineering Society, in New York. The consumption of electric power for lighting purposes in 1962 will be about 186 billion kilowatt-hours as compared with the current figure of less than 100 billion kilowatt-hours.

Citing the rapid rise in the use of electric power for lighting purposes, Mr. Sammis, whose estimates were based on a recent study by a leading lamp manufacturer, noted that more power is being used today for lighting alone than was sold by electric utilities for all purposes only 15 years ago.

In predicting a continued sharp upsurge in the use of power for lighting, Mr. Sammis said that some of the greatest lighting opportunities lie in the field of home lighting, already a $500 million business for the country's electric utilities.

He said that for electric utilities serving highly industrialized areas, residential lighting is often an off-peak load which may be increased without increasing the peak load. He cited the new levels of lighting intensity brought about by uses of fluorescent lighting in the home, as well as in offices and factories, and pointed out that such lighting is being used with customer satisfaction not just when night falls, but whenever anyone is occupying the area, whether it is a home laundry, kitchen, or office.

Prescolite establishes new eastern plant

The Prescolite Manufacturing Corp., Berkeley, Calif., has just completed a new plant in Neshaminy, Pa., a suburb of Philadelphia, to make the second major expansion of the young company in less than 18 months. The new plant will service Atlantic seaboard electrical wholesalers.

Selecting a two-acre industrial plant, Prescolite has enlarged and completely modernized the facilities to create a streamlined, production-line factory. New machinery and equipment have been installed, together with a specially designed "under and over" conveyor system which feeds the production lines and then through the metal-cleaning and degreasing baths on

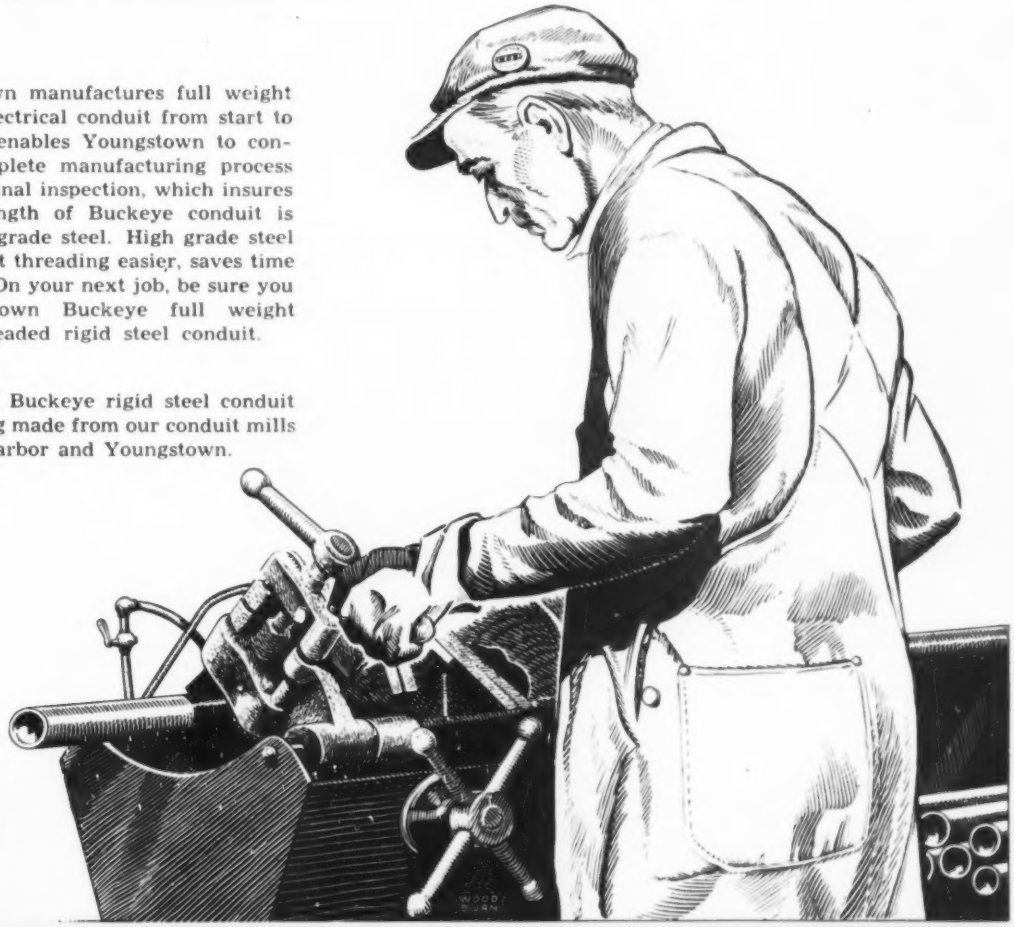
Save threading time with Youngstown Buckeye Conduit

ON-THE-JOB JOURNEYMAN KNOWS BUCKEYE FROM EXPERIENCE: "My boss learned that extra time spent on threading and rethreading a batch of poor quality conduit is money wasted. That's why we use only Youngstown Buckeye rigid steel conduit now. When we work with Buckeye, threading goes fast and easy because high quality steel gives perfect threads every time."

ELECTRICAL INSPECTOR HAS HIS SAY: "As far as I'm concerned, poor threads open the way to troubles. One way to avoid poor conduit threads is to get the best steel available. In my opinion, that's Youngstown Buckeye standard threaded rigid steel conduit."

Youngstown manufactures full weight rigid steel electrical conduit from start to finish. This enables Youngstown to control the complete manufacturing process from ore to final inspection, which insures that each length of Buckeye conduit is made of top-grade steel. High grade steel makes perfect threading easier, saves time and money. On your next job, be sure you get Youngstown Buckeye full weight standard threaded rigid steel conduit.

Shipments of Buckeye rigid steel conduit are now being made from our conduit mills at Indiana Harbor and Youngstown.



QUALITY · YOUNGSTOWN · SERVICE

THE YOUNGSTOWN SHEET AND TUBE COMPANY

Manufacturers of Carbon, Alloy and Yoloy Steel

General Offices — Youngstown 1, Ohio

Export Office - 500 Fifth Avenue, New York

COLD FINISHED CARBON AND ALLOY BARS - ELECTROLYTIC TIN PLATE - COKE TIN PLATE - WIRE - PIPE AND TUBULAR PRODUCTS - CONDUIT - RODS - SHEETS - PLATES - BARS - RAILROAD TRACK SPIKES.

The new Prescolite Manufacturing Company plant in Neshaminy, Pa., which is presently serving eastern electrical wholesalers.

through the paint shop into the baking ovens where the heat-controlled enamel is slow-baked on to the fixture to a diamond-chip hardness. All tools and dies used in the Berkeley plant have been duplicated to insure uniform fixtures from both plants.

Sales representatives for the southeastern division include: Baltimore, Md.—T. H. Bailey, Jr., 409 National Marine Bank Bldg.; Richmond, Va.—W. H. Lassiter Sales Co., Crenshaw Bldg., 300 E. Main St.; Knoxville, Tenn.—C. E. Pittner, P. O. Box 693; Atlanta, Ga.—Charles L. Woodyard, 161 Simpson N.W.; and St. Petersburg, Fla.—Frank C. McPherson, 6417 - 7th Ave., North.

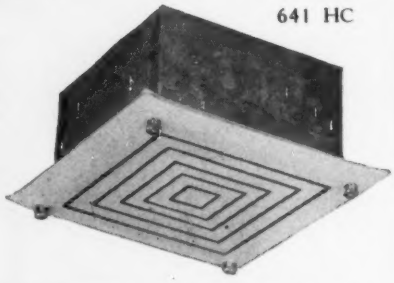
FOR STYLE-COLOR-PERFORMANCE
Choose ATLAS

A QUALITY LINE OF FLUSH, SEMI-FLUSH, HI-SPOTS
ROUND RECESS AND MANY OTHER MODERN STYLES

DECORATIVE SEMI-FLUSH
INCANDESCENT
FULLY HINGED

The new ATLAS finishes are available in bronze, copper and brass — *and at no extra cost!!* Be sure to see the new ATLAS "silent salesman" display when visiting your local wholesaler.

641 HC



ATLAS ELECTRIC PRODUCTS CO.
BROOKLYN, NEW YORK

New electrical books

Introduction to Power System Analysis

By Frederick S. Rothe. Published by John Wiley and Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. 187 pages, price $5.00.

Mr. Rothe, of the Analytical Engineering Section of General Electric, Schenectady, N. Y., has prepared in this comprehensive one-volume work a discussion of the basic tools of analysis that have been developed in the past 20 years. Generation, transmission, transformers, and stability are fully covered.

The volume is unique in that it derives the equivalent circuits for transformers, synchronous machines, and transmission lines, including all the elements of an electric power system.

Based on the author's practical experience in the field of analysis, use of the book requires no background beyond undergraduate mechanical or electrical engineering.

Although it is primarily an excellent introduction to the field of analysis, the new volume is designed to give enough information to solve most of the problems which confront the system engineer.

Illumination Engineering

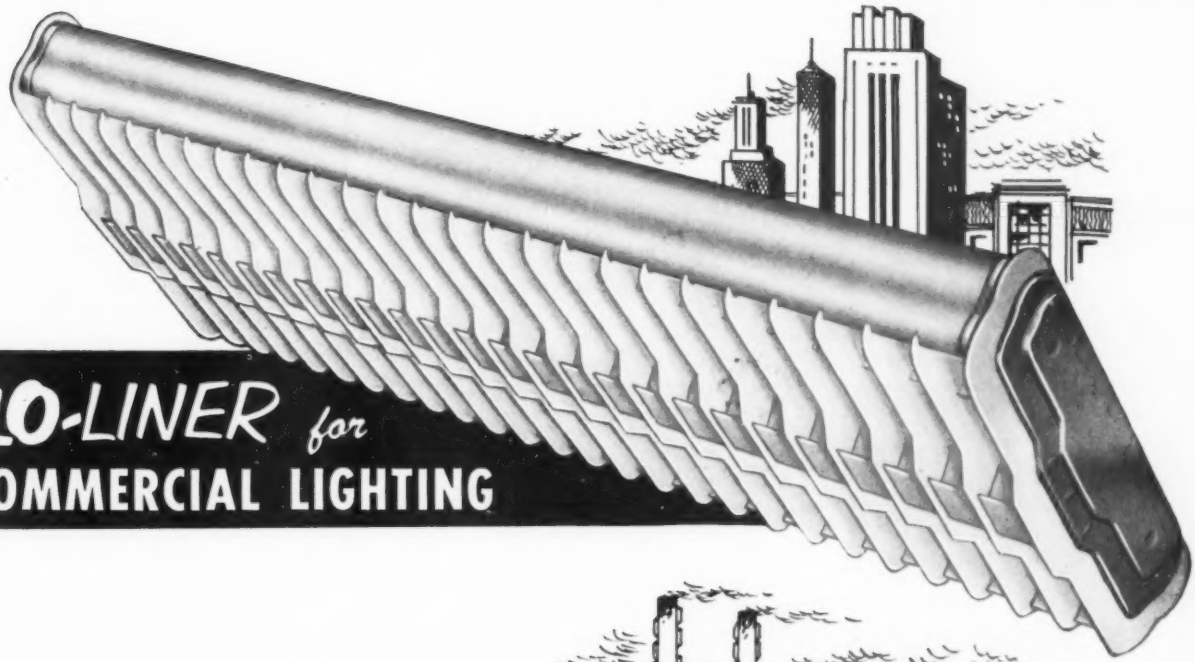
By Warren B. Boast, Ph.D. Published by McGraw-Hill Book Co., Inc., 330 West 42nd St., New York 36, N. Y. 340 pages, price $7.00.

The general plan of this second edition by the well-known Iowa State College electrical engineering professor, is much the same as that of the first. The spectral nature of radiant power is emphasized early in the book and reintroduced into the evaluation of magnitude effects whenever pertinent.

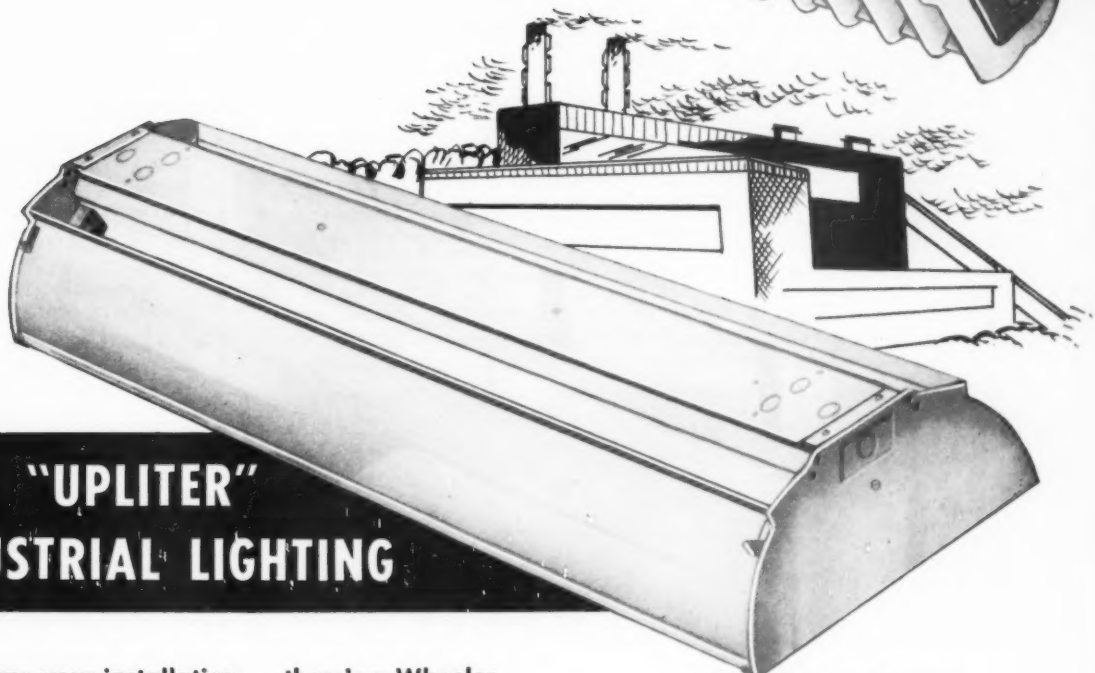
Chapters on color, the interreflection method of design, ultraviolet and infrared sources and applications, and wiring have been added to increase the scope of the first edition. Essentially, the entire book has been rewritten or critically reviewed in the light of the advances made in the field of illumination engineering during the past ten years.

Whatever your Lighting Requirements...

THERE'S A *Wheeler* FIXTURE THAT'S RIGHT FOR YOU *and the* JOB!



FLO-LINER *for* **COMMERCIAL LIGHTING**



DAY-FLO "UPLITER" *for* **INDUSTRIAL LIGHTING**

Name your installation — there's a Wheeler Fluorescent Fixture to give you maximum lighting efficiency! For 72 years, Wheeler has adhered to the standard of manufacturing only quality lighting fixtures — engineered for ease of installation and proven maintenance savings.

For full information on the above units and the complete Wheeler line of fixtures, write Wheeler Reflector Co., 275 Congress St., Boston 10, Mass.

Wheeler
REFLECTOR COMPANY
275 Congress St., Boston 10, Mass.

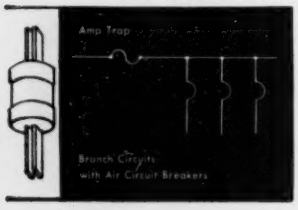
Distributed Exclusively through Electrical Wholesalers

REPRESENTATIVES IN PRINCIPAL CITIES

Amp-trap®

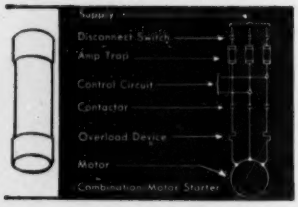
CHOPS DANGEROUS SHORT-CIRCUITS DOWN TO SIZE

Amp-trap with CIRCUIT-BREAKERS



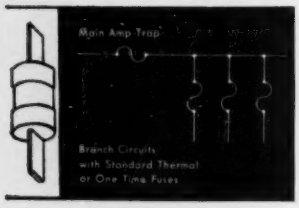
Amp-trap's lightning fast current limiting action makes it ideal for use in locations where the available short circuit current exceeds the circuit breaker's interrupting rating. It gives back-up, short-circuit protection to overload devices and clears a heavy short-circuit before the circuit breaker can open. Yet, the circuit breaker will open within its rating without blowing the Amp-trap.

Amp-trap with MOTOR CONTROLLERS



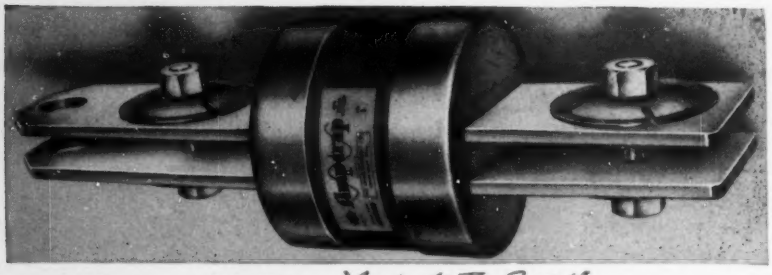
Amp-trap's small "let-through" current (low I^2t) gives positive protection to over current devices and contacts against high thermal or magnetic stress caused by super currents as high as 100,000 amperes R.M.S. at rated voltage. Amp-trap's operating characteristics limit stress on motor controllers, conductors, panel boards and load centers.

Amp-trap with PLUG-IN BUSWAY



Amp-trap's fast "chop-off" on high amperage short-circuit gives short-circuit protection to ordinary fuses and to isolate branch circuits without affecting feeder circuits or other branches supplied from the main busway. Actual tests on high short-circuit current have shown how Amp-trap amplifies plug-in busway momentary ratings by limiting magnetic and thermal stresses, and permits application of designs having limited withstanding ability on high powered installations.

Amp-trap is safe, efficient, economical short-circuit protection for electrical apparatus against large available short-circuit currents.



OUR 60 YEARS — FROM EDISON TO ELECTRONICS

AMP-TRAP — *"Awake At The Switch"*

In Canada — Powerlite Devices, LTD.

THE **CHASE-SHAWMUT** CO.

302 MERRIMAC STREET • NEWBURYPORT, MASSACHUSETTS

As in the first edition, no photographs of lighting systems are included in the book. However, tables of lamp data, National Electrical Code requirements, and similar tabulated data that change frequently are included in this popular textbook for example and problem purposes. Obviously, one should refer to the latest issues of such information for the actual application of equipment.

The conventional system of units based upon the lumen and the foot are employed throughout the book. The Appendix contains a table giving other units and the conversion constants through which they are interrelated.

Several illustrations pertaining to the Luckiesh-Moss visibility meter are included.

Dates Ahead

Southeastern Electric Exchange, Accounting Conference, Battery Park Hotel, Asheville, N. C., Oct. 15-16, 1953.

American Institute of Electrical Engineers, Fall General Meeting Muehlebach Hotel, Kansas City, Mo., Nov. 2-6, 1953.

National Electrical Contractors' Association, Annual convention, Saxony Hotel, Miami Beach, Nov. 17-19, 1953.

Southeastern Electric Exchange, Public and Employee Information, Fall Conference, Atlanta Biltmore Hotel, Atlanta, Ga., Nov. 19, 1953.

Southeastern Electric Exchange, General Sales Conference, Atlanta Biltmore Hotel, Atlanta, Ga., Nov. 19, 20, and 21, 1953.

Tennessee Chapter, Southern Section, International Association of Electrical Inspectors, Andrew Jackson Hotel, Nashville, Tenn., Nov. 23, 1953.

Southeastern Electrical Wholesalers Association "Industry Day" Meeting, Atlanta Biltmore Hotel, Atlanta, Ga., Jan. 14-15, 1954. M. L. Tice, Managing Director, 421 Rhodes Bldg., Atlanta 3, Ga.

The 1954 Plant Maintenance and Engineering Show, International Amphitheatre, Chicago, Ill., Jan. 25-28, 1954.

NAMES IN THE NEWS

A. Homer Manwaring, vice-president of **Philadelphia Electrical & Mfg. Co.** (Pemco), Philadelphia, assumed the office of president of the **Illuminating Engineering Society of America** at the group's annual convention in New York City recently.

Mr. Manwaring, a graduate of Penn State College, class of 1934, is the youngest executive ever to head the Society, which numbers some 8,000

A. H. Manwaring

members and associate members, and is the central research and scientific body in the field of illumination. He has served as executive vice-president during the past year, and represented the Society last spring at the international meeting in Europe.

He is the third generation of his family to be executive head of Pemco, a leading manufacturer of street lighting equipment, specialized outdoor lighting equipment, and electric water heaters.

●

Ellis C. Knox, chief electrical inspector for Miami, Fla., for nearly 20 years, has been elevated to the job of director of the city's new building department.

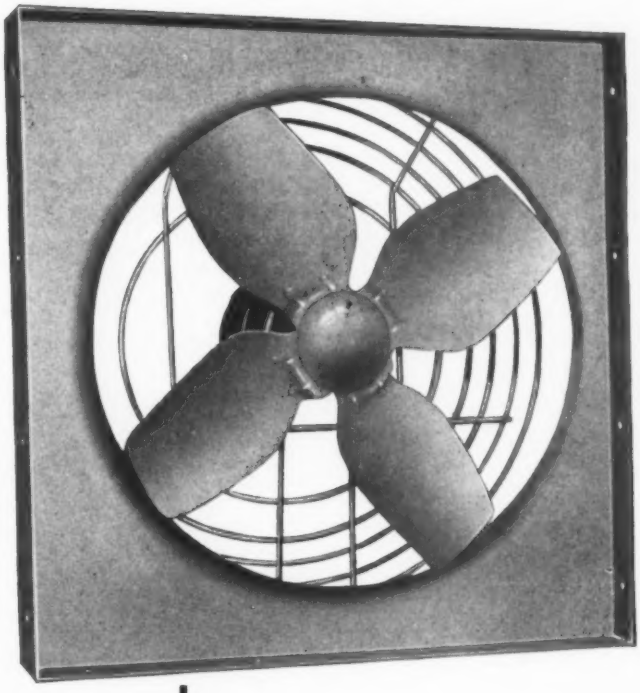
In promoting Mr. Knox to head the department which puts a dozen divisions under one administrative head, City Manager **E. A. Evans** turned down a suggestion from professional groups that the post go to a structural engineer or an architect.

Mr. Knox, a master electrician, has been a member of International Brotherhood of Electrical Workers Local Union #3349 for 31 years. He came to Miami from Indiana in 1923, and on Sept. 11, 1927, went to work for the city as an electrical inspector. He was promoted to chief inspector on Feb. 17, 1934.

As head of the new building department, Mr. Knox will supervise the electrical, building, plumbing and zoning divisions, line and grade permits,

High Performer

on FREE AIR or PRESSURE DELIVERY



The Popular New

NV-BREEZO FAN

At last, here's an easily installed propeller fan with stable, high efficiency performance either on free air or ¼" to ½" static! The result of many years of work by "Buffalo" engineers, the NV-BREEZO has a 4-bladed wheel specially shaped for efficiency. Blades are die-formed of #16 ga. steel in the smallest sizes and #12 ga. in the largest. Other parts of the fan are correspondingly sturdy: the panels are die-stamped of heavy-gauge steel—and the motor support, of strong, welded wire, is also a motor-side guard. WRITE TODAY FOR NEW BULLETIN 3865 for the profit facts on these new, efficient fans which may be fabricated of special metals or provided with protective coatings for corrosive industrial applications. 8" to 24" sizes to handle any fume, steam or air removal problem you have.

First For Fans

BUFFALO FORGE COMPANY

210 MORTIMER ST. BUFFALO, NEW YORK

PUBLISHERS OF "FAN ENGINEERING" HANDBOOK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

Sales Representatives in all Principal Cities

PANEL BREEZO FANS · BELTED VENT SETS · BELT-AIR FANS
BREEZ-AIR ATTIC FANS · "L" BREEZO FANS · "NV" BREEZO FANS

Only
PLUGMOLD 2000
gives you SWITCHED
and HOT OUTLETS
in the
SAME Receptacle!

WIREMOLD's exclusive SNAPICOIL eliminates multiple connections between short lengths – receptacles are pre-wired in 50 foot coils.

The Snapicoil 3-wire duplex receptacles of the new Plugmold 2000 multi-outlet system have one side *switched* and one side "*hot*"—this exclusive Plugmold feature means *extra* convenience in homes, stores, offices . . . everywhere.

The same size Plugmold 2000 raceway also accepts Snapicoil 2-wire duplex all "hot" or NEMA 2-wire grounded receptacles. Only *one size raceway* is needed on the job!

Plugmold 2000 is easier, faster and cheaper to install!

Write today for the new, free Plugmold 2000 book!

PLUGMOLD 2000

WIREMOLD'S *New* multi-outlet system

THE WIREMOLD COMPANY
Hartford 10, Connecticut

and boiler, smoke, and elevator inspections.

L. W. S. Cosens, assistant chief electrical inspector, was recommended by Mr. Knox to be promoted to the top job succeeding him as chief electrical inspector. Mr. Cosens has been in the electrical division for the last 18 years.

●

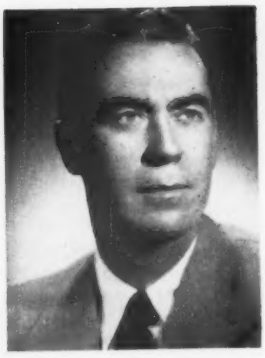
Two vice-presidents were elected at a meeting of the board of directors of the **Georgia Power Company**, Atlanta, Ga., recently, it was announced by **Harllee Branch, Jr.**, president of the company. **J. F. Pennington** was elected vice-president in charge of operations, and **C. M. Wallace, Jr.**, was elected vice-president in charge of sales.

Mr. Pennington has served as operating manager since 1950 and Mr. Wallace has been sales manager since 1951. Mr. Wallace succeeds **Charles A. Collier**, who will retire as vice-president in charge of sales on October 1 under the provisions of the company's retirement plan. However, Mr. Branch announced that he is being especially retained by the company as a vice-president for a period of six months following his retirement to complete power contract negotiations with the federal government, REA cooperatives, and certain muncipalities. He will also continue as a director of the company.

J. F. Pennington

Mr. Pennington has been associated with the Georgia Power Company since 1918. He began work as a construction helper and was successively advanced to electrician, foreman, assistant superintendent of tests and repairs, superintendent of the repair shop, supervisor of equipment maintenance, superintendent of wholesale operations, general superintendent of transmission and distribution and operating manager in 1950.

Mr. Wallace joined the company in 1928 as a student engineer and was successively a power salesman and lighting engineer in Athens, division lighting engineer and division sales supervisor in Atlanta, and assistant to the vice-president in charge of operations. In 1951 he became sales manager and assistant to the vice-president in charge of sales.



C. M. Wallace, Jr.

●

C. L. Redd, southeastern district manager of **G-E's Apparatus Sales Division** recently announced the appointment of **Michael J. Flynn** to the position of manager of finance for the district, with headquarters at 1860 Peachtree Rd., N. W., Atlanta.

Mr. Flynn joined G-E in 1936 as a cost accountant in the Pittsfield Works, transferring to Schenectady on the business training program in 1937. In 1940 he was appointed a line auditor serving in this capacity until 1947 when he assumed duties as a traveling auditor. During the next four years he handled audits in various sections of the U. S. and in Brazil, Argentina and Uruguay.

Michael J. Flynn

In 1950 Mr. Flynn was named assistant district auditor for the Michigan district located in Detroit, the position he held until his recent appointment to Mr. Redd's management staff as manager-finance for the southeastern district.

●

E. L. Harrelson has been appointed operating manager of the Shreveport branch of the **Graybar Electric Company**. He was appointed operating manager at El Paso in 1952, after two

years as operating manager at Austin. He has been with Graybar since 1947.

H. L. Warman replaces Mr. Harrelson at El Paso. He joined the Company in 1948 in the operating department at Dallas, transferring to El Paso in 1951 as quotation clerk. He attended Southern Methodist University.

H. J. Couch becomes operating manager at Oklahoma City after six years as operating manager at Little Rock. A graduate of City College in St. Louis, he has been with the company for 13 years.

●

A. K. Felix, Southeastern district manager for **Simplex Wire & Cable Co.**, 611-612 Healy Bldg., Atlanta, Ga., recently announced the appointment of **Charles S. Roach** as engineer. Mr. Roach, who was formerly with General Cable, will work out of the Atlanta office.

●

Edwin Vennard, vice-president, **Middle West Service Co.**, has been elected president of the company, succeeding retired **K. D. Carpenter.**

Mr. Vennard, a graduate of Tulane University, has been with the Middle West Service Co. for almost 20 years and has served as a consultant on rates, economics, new business, public and employee relations, and advertising. Before joining Middle West Service, he worked for a year in the General Electric Co. Testing Department and, later, for Gulf States Utilities Co. His next position was that of general commercial manager in charge of sales and rates for Southwestern Gas & Electric Co. Mr. Vennard continues as a member of the Board of Directors and the Executive Committee.

●

Clifford H. Keen has been made divisional sales manager, Eastern division, Electrical Materials Department, **Hubbard and Company**, with headquarters in Pittsburgh. "Cliff" Keen has been with Hubbard since 1923 and has successively served as an assistant in the Advertising Department, a salesman in New England, New York City district sales manager, and divisional sales manager of the New York area.

William W. Ege, Jr., has been with the company since the war, in which he served as Technician's Mate in the Navy. He took his degree at Carnegie Tech. He has been covering eastern Pennsylvania, central and southern New Jersey, Maryland, and northern Virginia. "Bill" succeeds John Flippen as sales engineer in the Kentucky-Tennessee Territory.

John P. Flippen served in the Naval Air Corps, graduated from Lehigh University, and has been with Hubbard and Company for two years.

THIS ISN'T 1890...

And today's housewives don't want 1890 type heating

They're demanding clean, automatic ELECTRIC heat! Automatic electric unit heaters are a big business in your area. Check with your local power company on installations and how fast they are increasing. Don't miss out on this extra—profitable business.

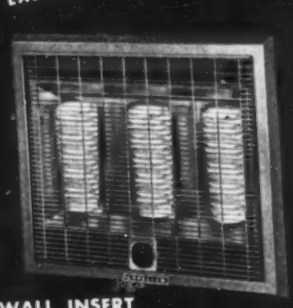
SELL *MODERN* HEATING FOR *MODERN* HOMES!

ORDER

Cavalier® AUTOMATIC ELECTRIC

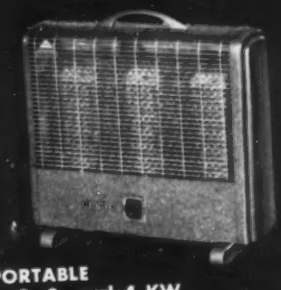
HEAVY DUTY HEATERS

EASIEST TO CLEAN . . . EASIEST TO INSTALL . . . EASIEST TO SELL!

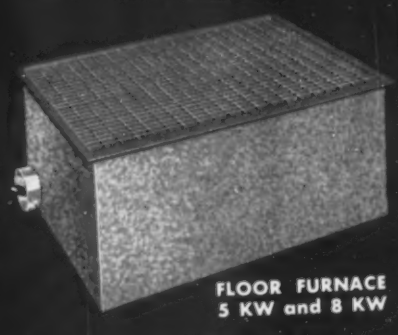


WALL INSERT
1, 1½, 2, 3, and 4 KW

SURFACE MOUNTED
1, 1½, 2, 3, and 4 KW



PORTABLE
2, 3, and 4 KW



FLOOR FURNACE
5 KW and 8 KW

Also available: Bathroom Heater (non-automatic) 1250W, 115/120V

WRITE FOR CATALOG and Guide for Calculations of Electric Space Heating

QUALITY PRODUCTS SINCE 1865

CAVALIER CORPORATION

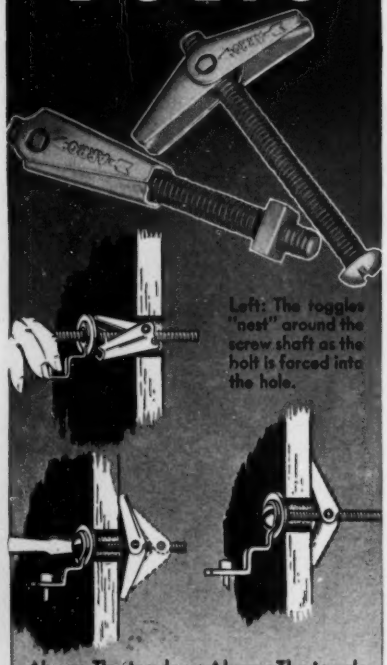
ELECTRIC HEATER DIVISION

CHATTANOOGA 2, TENNESSEE

MANUFACTURERS OF CAVALIER CEDAR CHESTS AND CAVALIER BEDROOM FURNITURE. COOLERS FOR COCA-COLA (AUTOMATIC VENDING AND OTHER TYPES).

TRADE ARRO MARK

TOGGLE BOLTS



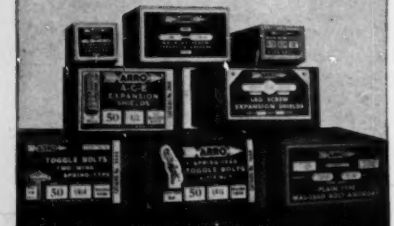
Left: The toggles "nest" around the screw shaft as the bolt is forced into the hole.

Above: The toggles spring back in position to form a bearing against the back wall.

Above: The toggle screw is screwed tightly into a solid position.

The services for ARRO TOGGLE BOLTS are endless for anchoring quickly and securely to hollow construction. These bolts have special features and are sturdily built of the best materials and workmanship to outlast the partition or walls to which they are attached. Arro quality is recognized everywhere. Made in screw sizes ⅛ to ½" inc.

Sold only through jobbers



ARRO EXPANSION BOLT COMPANY
MARION, OHIO

1520 BOONE AVE., MARION, OHIO

"Jack" has been transferred from the Kentucky-Tennessee territory to the local Pittsburgh territory as Sales Engineer.

Maynard P. West, Jr., was an Electrician's Mate in the Navy during the war and later finished his course at Virginia Polytech. "Pete" has been with Hubbard since his graduation, selling in Virginia and the Carolinas, in the production department, as sales engineer in the Pittsburgh territory, and now goes in the same capacity to Metropolitan New York.

●

O. B. Falls, Jr., has been named manager, electric utility sales of the Apparatus Sales Division, **General Electric Company**, according to an announcement by **Karl Runkle**, manager of the company's Industry Sales Department. For the past three years, Mr. Falls had been manager of product sales, G-E Pacific Northwest District at Seattle, Wash.

A native of Texas, Mr. Falls earned a B.S. degree in physics and mathematics at the University of Richmond

O. B. Falls

(Va.) and in 1936 received a B.S. and M.S. in electrical engineering at Massachusetts Institute of Technology.

After graduation from M.I.T., Mr. Falls went on Test with G.E. at Pittsfield, Mass., and at Schenectady, and later worked for two years in the Transformer Division at Pittsfield. He was appointed manager of product sales of the district in 1950.

●

J. L. Wagoner, after thirty-two years with Westinghouse Electric Corp., has joined **Multi-Amp Corp.**, Harrison, N. J., as vice-president and national sales manager.

An electrical engineer with many years of sales organization experience, an author of numerous articles in both the trade and business press, and one of the country's outstanding lecturers on electrical subjects, "Doc" Wagoner will be responsible for developing and building the national sales pattern for the various testing instruments manufactured by Multi-Amp.

J. B. Proctor has been appointed field sales engineer for the North and South Carolina territory for the Illuminating Division of **The Miller Company**, Meriden, Conn. He had been representing The Miller Company out of Memphis, Tenn.

Mr. Proctor has a broad background of experience in lighting sales

J. B. Proctor

and service, for prior to becoming associated with Miller, he was connected with the General Electric Supply Company, of Memphis, and the Memphis Light, Gas and Water Board. He will now operate out of Charlotte, N. C.

●

A. A. Hoehling has been appointed public relations manager of the **National Association of Electrical Distributors**, with headquarters at 290 Madison Ave., New York, it was announced by **Charles G. Pyle**, executive director.

NAED, which was organized in 1908, is one of the largest wholesale associations in the distribution field. Its membership of 1100 electrical distributors, handling products of many manufacturers of industrial and consumer goods, is nationwide.

Most recently with Bell Telephone Laboratories, Mr. Hoehling has formerly been in airline publicity in New York and in Chicago. He reported for five years for the Washington, D. C., newspapers, also has written articles for national magazines and syndicates. He served in the Navy in World War II, now lives in Darien, Conn.

●

Gordon L. Myers, well known in the electrical field, died recently after a long illness. A native of High Point, N. C., he became affiliated with the **General Electric Supply Corp.**, Chattanooga, in the Accounting Department in 1928. He was transferred to Atlanta in 1931, later to Richmond, Virginia, in 1940.

Prior to entering the military service in 1942, he was district operating manager of the General Electric Sup-

ply Corp. in Richmond, Va.

After an excellent war record, he rejoined the General Electric Supply Corp. in Atlanta in 1945 and has been headquartered in Atlanta. Most recently he has been in charge of transmission equipment sales for the Atlanta District.

●

Appointment of **L. E. Blackwell, Jr.**, sales application engineer with the **Reliance Electric and Engineering Company** to the Charlotte, N. C., sales office, 1208 Liberty Life Building, was announced jointly by **E. E. Helms**, Reliance sales vice-president, and **E. G. Orahood**, southeastern district manager, Atlanta, for the company.

In his new field sales post, Mr. Blackwell will report to **Frank W. Leitner**, Charlotte branch manager for Reliance.

Born in Martinsville, Va., Mr. Blackwell joined the Reliance organization in September, 1952, following graduation in electrical engineering from Duke University.

He is an associate member of the American Institute of Electrical Engineers and of the Duke Engineers Club, and also a World War II veteran having served four and a half years in the air arm of the United States Navy.

●

Line Material Company, Milwaukee, Wis., has appointed **Joe N. Drew** to be field engineer in the company's South Central Division. Drew handles L-M sales in western Tennessee, northern Mississippi, and Southeastern Kentucky, and he makes his headquarters at L-M's Memphis office.

Prior to joining L-M, Drew was plant electrical engineer for the Crossett Paper Mills at Crossett, Arkansas, and he has had previous sales application engineering experience.

Joe N. Drew

He received his BSEE from the University of Arkansas in January, 1950. During World War II, Drew served 30 months in the infantry, with 18 months in ETO.

Friends, we must learn to be kind to our conductors. We must not hamper their movement, but give them all the freedom we can. We must never pinch our conductors or squeeze them tight. So get on the right track and join the

BE-KIND-TO-CONDUCTORS SOCIETY

We would like to have you as a charter permanent lifetime member. Membership in the Be-Kind-to-Conductors Society is automatically conferred when you faithfully use Bronco 60 Certified portable cords and cables.

Never before were conductors given such staunch and loving care. A 60% by weight Neoprene jacket wards off oil, acids, sunlight, ozone, and such. When the whole shebang is joined together, vulcanization is carried through in a civilized manner that does not squeeze, bind, or hamper the conductors.

BRONCO 60 Certified

gives all the protection a conductor could ask for.

Would you like a **free** button and membership card? Just tear off the end of a BRONCO reel or carton and mail it together with a streetcar token or valid transfer to cover cost of handling to

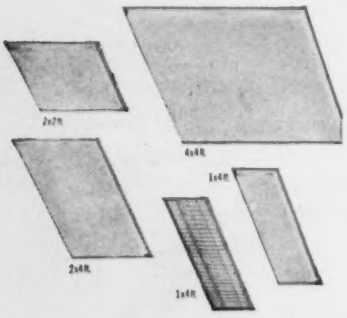
WESTERN INSULATED WIRE CO.
Los Angeles 58, California
(BE SURE TO PRINT YOUR NAME AND ADDRESS)

NEW PRODUCT NEWS

Wakefield Beta-Plex

AN EIGHT-PAGE folder describing Beta-Plex of the Wakefield Geometrics Series, is available from the F. W. Wakefield Brass Co., Vermillion, Ohio. Beta-Plex in the series designates modular lighting units for recessed mounting in suspended ceilings in multipes of 1-inch by 4-inch, 2-inch by 4-inch, and 4-inch by 4-inch.

Ballast and lampholders of the units are contained in an individual metal housing. It is provided with hook-on suspension points for the swing-down Plexiglas panels. The diffuser panels are formed with an arch from edge to edge for rigidity. Their weight is about half that of an equal area of suitable glass. The surface of the plastic is of matt finish to minimize glare from below. The diffuser panel swings down at contact of a touch rod, and may be lifted out. Replaced and swung up, they are held securely in place by touch-latches.



Beta-Plex units may be used individually or in quantities depending upon the size area to be lighted.

●

Color reflector lamps

AMPLEX CORP., 111 Water St., Brooklyn 1, N. Y. announces expansion of its Colorbeam Reflector Lamp line. Now having evolved a full color scale of fourteen brilliantly-rich, color permanent lamps, Amplex is marketing the complete line in bulb-sizes and wattages ranging from 75 to 300 Watts.

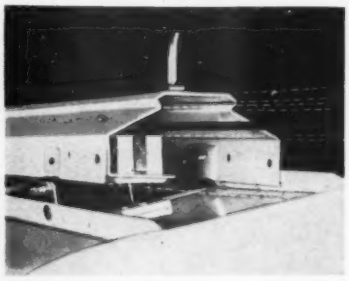
The Amplex color range is a veritable rainbow, running the gamut from Blue-Violet to Ruby Red. Supplementary colors have been added to Amplex's R-30, R-40, and Par 38 Colorbeams. The R-30 "Baby" Colorbeams and R-40 Standard, are applicable for indoor decorative effects, while the Par 38 has the unique feature of being adaptable for both indoor-outdoor floodlighting service. These Colorbeams eliminate the need for filters.

A new engineering feature of the Colorbeam is the construction of a bulb design called "Hi-Dome," which counteracts stresses and strains. Hi-Dome resists heat-tension, and increases bulb life-span. The rated average life is 2000 hours.

●

New plug-in feature

AN IMPORTANT innovation in fluorescent fixture design is announced by Gibson Manufacturing Co., 1919 Piedmont Circle, N. E., Atlanta, Georgia. Now incorporated in the recently announced ortho-77 fixtures is a revolutionary new plug-in feature.



The fixture is designed to be mounted on the Uni-Race, a rigid sectional channel that provides automatically exact fixture spacing with calculated clearance between units, positive alignment and a continuous open wireway. Receptacles are wired-in at spaced intervals and clamped into pre-set slots in the Uni-Race. Plug-in socket in the fixture makes contact with the receptacle when the fixture is closed. The fixture becomes completely dead when opened and, being wired in parallel circuits, does not disturb other fixtures when removed. It may be safely handled without disconnecting the circuit.

With this new feature fixtures may be hung in a matter of minutes and without tools after Uni-Race has been mounted. Lighting levels can be raised from two to four light on the same Uni-Race, or fixtures mounted on a continuous Uni-Race at spaced intervals can quickly be made continuous later. Ballast replacement or repairs can be made "on the job" by replacing fixtures rather than parts. Most important is the fact that other fixtures in the circuit remain lighted during the change.

●

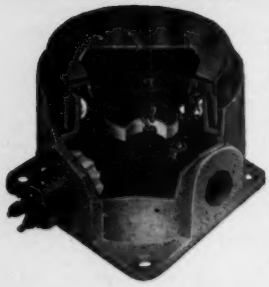
Lighting catalog

THE NEW CATALOG of Beacon residential lighting fixtures describes in detail the lighting equipment now being manufactured by Beacon Lighting Products Corp., 615 North Aberdeen St., Chicago 22, Ill.

The Beacon products include novelty

Latrobe PRODUCTS

FLOOR BOXES · WIRING SPECIALTIES



Clean and compactly designed to cut installation time to the bone and give smooth, trouble-free service "Latrobe" Products give a full measure of value.

"Latrobe" Products are proof that the road to true economy lies through quality and quality alone.

Floor Boxes • Cover Plates • Pipe or Conduit Hangers • Gang Boxes • Nozzles • Fish Wire • Cable Supports • Junction Boxes • Insulator Supports • Staples and Cable Clips

Represented in the South by

FULWILER & CHAPMAN, INC.
702 Whitehall St., S.W., Atlanta, Ga.
213 S. Front St., New Orleans 12, La.
445 English St., Greensboro, N. C.

LEIGH A. DOXSEE CO.
4030 Chouteau Ave., St. Louis 10, Mo.

FRED H. SIMMER CO.
1406 S. Akard St., Dallas 1, Texas

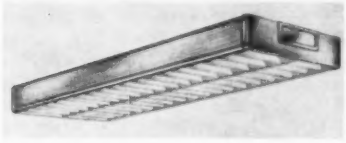
FULLMAN MANUFACTURING CO.
LATROBE . . . PENNSYLVANIA

fixtures and lighting installations suitable for every home application. Each description is illustrated, and full information is given on finishes and sizes. Also included is a description of the hospital and institutional lighting being marketed by the company.

●

New lighting fixture

GARCY Lighting, 1750 N. Ashland Ave., Chicago 22, Ill., announces the addition of the "Star-Liner" Series to its line of commercial luminaires. The "Star-Liner" features side panels of Corning Alba-Lite glass, 30 x 40



degree shielding and efficiency of approximately 80 per cent.

Glass panels are attractively framed by rounded metal trim rails, adding a graceful touch to the shallow, functional design.

Available in two-lamp and four-lamp four-foot models for slimline, standard fluorescent or rapid start lamps; eight-foot units for 96-inch slimline lamps.

●

Gym lighting fixtures

BECAUSE THEY provide uniform light of good intensity—without annoying shadows or excessive glare—modern gym lights are helping our athletes see better and play better. Everyone is benefiting—players, coaches, referees and spectators. They can follow the game far more easily and without eyestrain.

Typical of today's modern gym fixtures is the one shown here, built by The Edwin F. Guth Co., St. Louis, Mo. A wide variety of sizes, styles and models fits all gym lighting requirements.

Good quality light that will stand up under punishment is furnished by specially-built reflectors. They won't tarnish or turn brittle from age or heat, and won't break or chip when

No place BUT NO PLACE

gets "LIT" like MIAMI!

The reception extended these lines prove that they meet the most exacting specifications and are profitable as well as practical and beautiful.

MIAMI WHOLESALERS, CONTRACTORS AND ARCHITECTS RECOMMEND:

AMPLEX

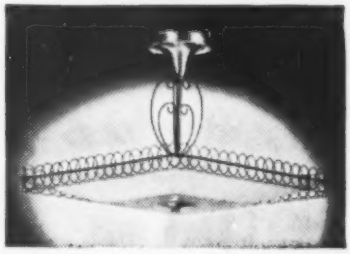
smart modern accent lighting

By actual comparison, the SWIVELITE Line proves superior to all competitive units in flexibility, in adaptability, in styling, in finish. And Swivelites have instant, positive, finger touch positioning . . . ventilated hoods for longer bulb life.

JER-O-LIERS

Styled to harmonize in any setting.
STYLING, CRAFTSMANSHIP AND QUALITY have been stressed in the production of

JERYL LIGHTING PRODUCTS
CHICAGO, ILL.



SUNBEAM

The very popular priced line.
Specializing in 12, 14 and 16 inch square distinctive fixtures.
ALL FABRICATED PARTS ARE MANUFACTURED IN THE SUNBEAM PLANT WHICH IS EQUIPPED FOR METAL STAMPINGS, PAINT FINISHING, GLASS SCREENING, BENDING AND FIRING.

SUNBEAM ELECTRIC MFG. CO.
PHILADELPHIA, PA.

TEAL

THE NEW AND IMPROVED SPOTLIGHT LINE.
Designed for outdoor and interior applications where moisture, dust or smoke are in the atmosphere. These VAPOR-TITE fixtures give trouble-free service.

TEAL CORPORATION
IRVINGTON, N. J.

Current Catalogs and Prices Available on Request

JULES J. DREYFUSS' SONS
ELECTRICAL FACTORY AGENTS
MEMBER MA

324 PETERS ST., S. W.
ATLANTA 3, GEORGIA
MAIN 6886

1361 N. W. 23rd STREET
PLEASE ADDRESS MAIL TO:
P. O. BOX 187, ALLAP. STA.
MIAMI, 42, FLORIDA
PHONE 2-6736

WE MAINTAIN STOCKS OF ELECTRICAL DEVICES IN OUR WAREHOUSES

Send for NEW CATALOG

DONGAN ELECTRIC MFG. COMPANY

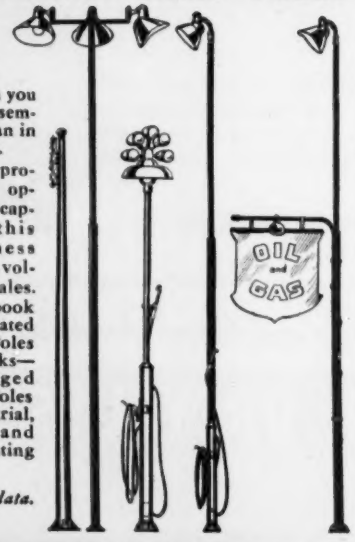
2998 Franklin Detroit 7, Mich.

Southern Representative:
George R. Keein
144 Walker St., S.W.
Atlanta 3, Ga.

DONGAN TRANSFORMERS
The Dongan Line Since Nineteen-Nine

Revere
ELECTRIC MFG CO CHICAGO U.S.A.

HEADQUARTERS for HINGED AND RIGID POLES



Nowhere else can you find a greater assemblage of Poles than in the REVERE line.

New building programs are your opportunity to capitalize on this profitable business ...and it leads to volume floodlight sales. Be prepared to book orders for Ventilated Flag or Service Poles for venting oil tanks—Rigid and Hinged High Mounting Poles for Sports, Industrial, Service Station and Commercial Lighting Projects.

Write for selling data.

REVERE ELECTRIC MFG. CO. 6005 BROADWAY CHICAGO 40, ILL.
INDOOR & OUTDOOR LIGHTING FOR EVERY NEED

... and the FLOODLIGHTS THAT GO WITH THEM

750-1000-1500 WATT ENCLOSED FLOODS

300 to 1500 WATT ELIPTOR FLOODS

18 and 20 in. REAR SERVICE FLOODS

300 to 1000 WATT ENCLOSED FLOODS

"ENDOVAL" MERCURY-VAPOR LUMINAIRE

dropped or struck. Schools, churches and other institutions find this cuts costs and gives better light that lasts longer. Maintenance, too, is simplified because all parts can be easily reached for cleaning and servicing.

Small wonder that dark, depressing gyms are fast disappearing from the American scene. Candle-power has been combined with muscle-power to make today's indoor sports more comfortable and more enjoyable for both players and spectators.

●

1953 Trumbull catalog

THE 1953 EDITION of the "Trumbullist," general catalog of the Trumbull Electric Department of the General Electric Co., Plainville, Conn., is off the press and initial distribution has been made to thousands of electrical distributors, contractors, engineering and architectural firms and plant electricians. The catalog contains complete listings of safety switches, circuit breakers, service entrance equipment (both fusible and circuit breaker types), motor control and Trumbull's extensive line of panelboards.

Engineered type products, such as Flex-A-Power distribution systems and Centr-A-Power switchboards and control centers, are also fully described. However, technical and detailed information on these engineered products is offered through a new feature in this year's Trumbullist, a page of self-addressed post cards which make it easy for those interested to request further information.

●

Industrial fan line

MURRAY COMPANY of Texas, Inc., Ventilation Fan Division in Atlanta, has added to its line of standard industrial fans a line of Deluxe fans which are designed for maintenance-free operation with no required lubrication.

The Deluxe, as well as the Standard fans are available in 24-inch, to 48-inch and 1/3 to ¾ hp motors. The two lines are identical in specifications except for the maintenance-free and longer guarantee features of the Deluxe models.

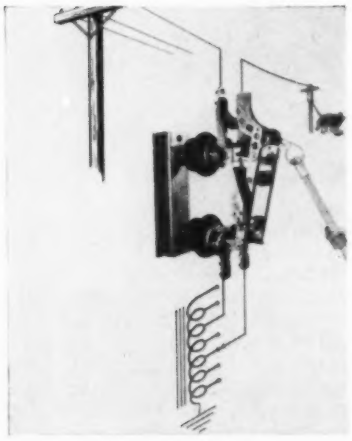
A catalog describing all fans in the Murray line is available free of charge from H. C. Biglin Co., 177 Harris St., N.W., Atlanta, Ga., national sales agent.

●

Bypass switch

A NEW bypass switch for use with voltage regulators on 7.5, 15, and 23-kv distribution circuits is available from the Westinghouse Electric Corp., Box 2099, Pittsburgh, Pa.

In isolating or reinserting a voltage regulator, this switch does the work



of three. The lineman opens the switch with a hookstick; the switch contacts operate in sequence, first shunting the regulator and then disconnecting the regulator from the line. It eliminates danger of interrupting service by operating switches in the wrong sequence.

The switch has a load current rating of 600 amperes, and will handle short-circuit currents up to 20,000 amperes.

●

Street lighting system

A NEW STREET LIGHTING system, called Uni-Ballast, that operates series-connected mercury vapor lamps without individual ballasts, has been developed by Line Material Company, 700 W. Michigan Ave., Milwaukee 1, Wis.

A 10-kw, 2400-volt Arctroller, which combines the functions of a regulator and a ballast, is the feature of the new system. Connected to the primary for better voltage regulation, the Arctroller provides sufficient voltage for starting, even at extremely low temperatures, and regulates current to EH-1 mercury vapor lamps. It is capable of carrying loads up to its 10-kw design capacity.

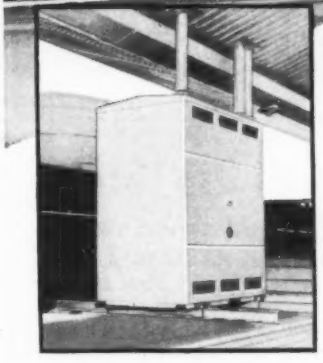
In addition to the Arctroller, the system consists of a time-delay relay, remote control oil switch, protective relay, and time clock control. All components are mounted at one substation to provide the advantage of single-point control.

●

Columbia wire and cable

COMPLETE redesign of its wire shipping cartons was undertaken recently by Columbia Cable and Electric Corp., Brooklyn, N. Y., after a careful survey among jobbers' countermen, shipping clerks, and electricians on the job, as well as others who have to handle wiring materials to determine what they look for in a carton.

The principal objectives in the new



SANTA FE RAILWAY · UNION PACIFIC RAILROAD · SOUTHERN PACIFIC COMPANY

Specifications for the stringent power requirements for Los Angeles Union Passenger Terminal were set up by a group of electrical engineers representing the three railroads that operate the terminal, and were met by the purchase of Marcus dry type Transformers.

The installation consisted of 12 Marcus 300 KVA, 3 Marcus 225 KVA dry type Transformers installed outdoors. All Marcus dry type Transformers are now being constructed with Hi-Heat, Hi-Dielectric Magnet Wire, insulated with DuPont's Newest miracle polyester film "Mylar," combined with Johns-Manville "Quinterra" to reach insulation levels at least 10 times present industry standards.

Increase your power performance standards with Marcus dry type Transformers.

Capacities from 1 to 3000 KVA

- DISTRIBUTION
- GENERAL PURPOSE
- UNIT SUBSTATION
- PHASE CHANGING
- ELECTRIC FURNACE
- RECTIFIER
- WELDING
- MOTOR STARTING
- SPECIAL

"Mark of Quality"

Representatives in Principal Cities

MARCUS TRANSFORMER CO., INC.
HILLSIDE 5, NEW JERSEY

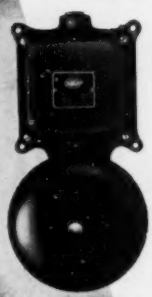
ONE OF THE WORLD'S LARGEST MANUFACTURERS OF DRY TYPE TRANSFORMERS EXCLUSIVELY

the Emblem of Quality since 1875

FARADAY

SIGNALS and SYSTEMS

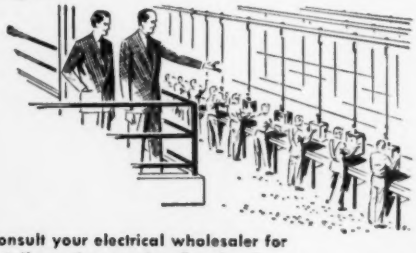
ADD *SPEED . . . SAFETY*



Properly designed and installed signals and systems are real time-savers that smooth out many a plant problem—help stop wasted motion. And solving individual signaling problems has been Faraday's business for *seventy-eight years.* These years of experience assure correct plans, correct installation. To be sure that your signaling system is operating at top efficiency, check with Faraday. No obligation.

NECK-TYPE BELLS

VIBRATING HORNS



Consult your electrical wholesaler for details on the complete Faraday line.

HOLTZER-CABOT **FARADAY** STANLEY & PATTERSON

CONSOLIDATED BY:

SPERTI FARADAY INC. ADRIAN, MICH.

BELLS · BUZZERS · HORNS · CHIMES · VISUAL AND AUDIBLE PAGING DEVICES AND SYSTEMS

KUHLMAN'S SOUTHERN DIVISION

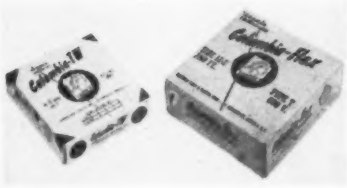
— always ready to serve your transformer needs

Rapidly growing industry throughout the South can depend on the new modern plant of Kuhlman Electric Company at Crystal Springs, Mississippi, to supply them with the sturdy, dependable transformers they need to keep production humming. Nearly 60 years of experience in building safe, efficient transformers, and a consistent record of leadership in the improvement of modern transformer design is Southern industry's assurance that Kuhlman will serve them well. Specify Kuhlman transformers for your next installation. Write us today for complete details and the name of your nearest Kuhlman representative.

131

Kuhlman **ELECTRIC COMPANY**

BAY CITY, MICHIGAN • CRYSTAL SPRINGS, MISSISSIPPI



design were to develop a strong carton that would stand stacking and rough handling, as well as a carton which would afford instant identification of its contents. Using eight basic colors and four different sizes of cartons, the company has devised a scheme of instant identification which makes use of 13 identifying symbols strategically placed on five sides of each carton, visible from any angle, so that size and color of the wire may be instantly recognized, avoiding unnecessary handling.

In the course of changing the cartons, the company also restyled the Columbia trademark as shown in the accompanying illustration.

Lighting trends

(Continued from page 80)

tal has either expanded or remodeled, or has plans for doing so. Each program calls for better lighting for patients, in operating rooms, laboratories, dining areas, and offices.

Schools and churches have done a major part of the post-war building in the city, and tremendous strides have been made in this type lighting. In schools, the incandescent glass enclosing bowl has been replaced by continuous rows of louvered fluorescent fixtures almost exclusively in new and remodeled class-rooms. Since schools still are more crowded than is desirable, more new schools are being built, and many old classrooms will be remodeled, so continued improvement in school lighting can be expected in the future.

In churches the trend is toward higher intensities, and unusual effects using both incandescent and fluorescent sources.

In the progress of a thriving city, lighting is an important factor in efficiency, appearance, and economy. New Orleans Public Service, Inc., feels that its program of education and selling does much to accomplish these things in New Orleans. A staff of well-trained industrial, commercial, and residential representatives are in constant touch with

store:

MILLER BURLINGTON, *a new fixture designed for store lighting makes stores brighter, more inviting. Time saved on installation and maintenance gives you the benefit of low overall cost. Quality-built, for long, dependable life—more value for your lighting dollars. Write for details.*

FUNCTIONAL DESIGN. *Clean, simple lines.*

EASY *2-way lamping—1 ladder position.*

STRENGTH, *Rigidized 1-piece steel louver.*

THE **miller** COMPANY
Meriden, Connecticut
LEADERS IN LIGHTING SINCE 1844

Field Sales Engineers:
H. Connell, 132 Heatherdown Rd., Decatur, Ga.; C. Maddox, 2700 Connecticut Ave., N.W., Washington, D.C.; J. W. Fowler, 2709 Live Oak Drive, Nashville, Tenn.; Ben Clarkson, 6147 Prestonshire Lane, Dallas, Texas.

their customers assisting them in obtaining a good lighting job for their specific needs. The value of planned lighting is stressed, and lighting layouts are prepared recommending the best system for their particular needs.

Lighting data sheets are used as an aid in the promotion of planned lighting, and primarily to show what local people are doing to improve their business through the use of lighting. An accompanying illustration shows the low-brightness, glare-free installation made recently for the Homestead Saving Association.

New Orleans Public Service, Inc., works in close cooperation with allied people in the lighting industry through a dealer lead system and by assisting fixture salesmen, the installing contractor, and the customer. In addition an active direct mail program is in effect year round to point out the many advantages of planned lighting.

The future for lighting in New Orleans is good. In spite of the tremendous advances made in recent years, there still remains a vast amount of lighting which can be improved by a strong selling program on the part of the entire industry.

Economic comment

(*Continued from page* 5)

citement or worry. In fact, since most people know so little about possible changes, and feel so secure with the present law, there seems little probability of any major change in the near future.

Eisenhower's position appears to be stronger by his failure to recommend changes than it would be if modifying legislation had been proposed. This is a case where lack of action seems to be stronger than a positive approach to the problem.

Microwave network

(*Continued from page* 43)

tions will be transmitted from all principal points to the dispatcher over the microwave system. Telemetered data will include metering of key lines and net interchange of megawatts. The communications network will work into automatic

NEW OPPORTUNITIES FOR JOBBERS!

- EXTRA SALES
- ADDED PROFITS

Modern Automatic heating at its finest..

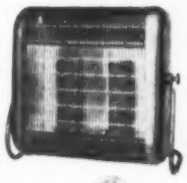
- Offer your dealers these outstanding products ... outstanding because their consumer acceptance has been rapid and sales have jumped by leaps-and-bounds.

MEIER **Nu-air**

thermostatic-controlled automatic wall furnaces in 5 sizes to meet every requirement.

MEIER **Nu-air**

thermostatic-controlled automatic portable floor furnaces permit you to direct heat where it is needed.



Manufactured by
MEIER ELECTRIC & MACHINE CO., INC.
Indianapolis 7, Indiana
Famed for Dependability Throughout the World

TO: Meier Electric & Machine Co., Inc.
3527 EAST WASHINGTON STREET
INDIANAPOLIS 7, INDIANA

Please send me additional information on the Meier Nu-Air portable and wall-type automatic wall furnaces, and the availability of franchises in my trading area.

My Name:.....
My Company:.....
My Address:.....
.....

Eliminate all Cluster Light Headaches

with Austin's new "FLOATING SOCKET" LAMPHOLDER!

Cat. No. CLD-150 for 150-watt lamps.
Cat. No. CLD-35 for 300 and 500-watt mogul base lamps.

Aluminum alloy. Completely wired. Heatproof, weatherproof gasket. Removable retaining ring for easy socket replacement.

Snug Fit Under All Conditions!

Accomodates Physical Variations in Lamp— Assures Positive Contact— Eliminates Breakage

Floating socket moves forward or side to side in an eccentric plane to compensate for variations in size and shape of lamps, sockets and castings. Insures tight seal and positive electrical contact.

STONCO ELECTRIC PRODUCTS CO.
KENILWORTH, NEW JERSEY

A New Book — A New Look — at modern electrical heating helps you to *triple* your share of todays BUILDING DOLLAR.

*** THIS WILL HELP YOU SELL MORE HOME HEATING JOBS**

Electrical contractors all over America are increasing their share of todays building dollar by 300%, when they install, modern Wesix Automatic Electric Wiredheat. Here, in our new 32-page booklet designed for Modern Electric Heating, is a new tool to make your selling job easy. It sells home owners and those planning to build or remodel on all the advantages of electric heating..... It shows them how much less it costs to install... compares operating costs and comfort features with all other heating systems... reveals some pleasant surprises to economy minded prospects.

And this new booklet is more than a selling aid, its packed with ideas for every home owner and building prospect, it tells them to see YOU for expert installation, and help in selecting their Wesix system. Featured in National Advertising for 10c a copy, (or free) at Wesix Wiredheat dealers (this booklet is already bringing thousands of requests). Send for your own free copy, and fill in the coupon below today.

** Mail it — display it — use it as a sales promotion to get more home heating jobs.*

Have you seen a copy?

WESIX ELECTRIC HEATER CO. Dept. ES-10
390 First St., San Francisco, Calif.
☐ Please send me free copy of your new booklet.
☐ Please furnish prices on quanties of _____
NAME _____
ADDRESS _____
CITY _____ STATE _____

WESIX Wiredheat
AUTOMATIC *Electric* HEAT

control systems governing principal power plant load controls to supervise and maintain optimum economy of load distribution. Supervisory control carried over the microwave system, together with power line carrier interconnects, will allow remote control of more than 40 unattended substations.

The microwave equipment, similar to that installed by Motorola for many cross-country power and pipeline operations, will operate in the 6,800 megacycle range. Station installations will feature tower top 45° angle passive reflectors allowing all electronic equipment, R.F., multiplex, and termination, to be installed on ground level. Using this system, the radio energy is radiated vertically from rooftop mounted parabolic antennas and is reflected horizontally from the passive reflectors in very narrow beams toward the next station. The average distance between stations is more than 25 miles.

Operating efficiencies are maximized in the passive reflector antenna system since radio connections to the tower are unnecessary, transmission losses up the tower are eliminated, and all equipment service and maintenance is accomplished at ground level.

This extensive, privately owned radio communications system now under construction is scheduled to be in and operating before the end of 1953 to provide the Middle South Utilities' properties many economies and improvements in operating efficiency. Even with system expansion and increased complexity of power distribution, residential and industrial electric power consumers throughout the south central states will realize the benefits of this progressive move in terms of assured continuity of service, availability of adequate power, consistent levels of voltage, and frequency and maintenance of minimum rates.

Canvassing sells

(*Continued from page* 42)

San Angelo, late last summer.

On July 5, a new television station went on the air and for weeks previous to that event, all dealers were busily engaged, selling and installing sets.

Soon after this station was on

PYLE-NATIONAL
SERVICE ENTRANCE PYLETS

HEADS
CAPS
ELBOWS
CONNECTORS

Entrance Heads

FORMERLY MANUFACTURED BY
THE M. B. AUSTIN COMPANY

Another important addition to an extensive and continuously expanding line of high quality, heavy duty wiring and lighting products.

PYLE-NATIONAL'S COMPLETE LINE INCLUDES:

Cable Clamp Caps

Entrance Caps

Entrance Elbows

- Pylet conduit fittings for hazardous and non-hazardous locations.
- Safety switches.
- Circuit breakers.
- Plugs and receptacles, Triploc, Midget Triploc, Quelarc and Strate-Line.
- Push-button and pilot light Pylets.
- Lighting fixtures, explosion-proof, dust-tight, vapor-tight.
- Junction Pylets.
- Cord and cable sealing grips—conduit unions.
- Floodlights and pit lights.
- Loading lights.
- Gyralite visual warning signals.

SINCE 1897

Refer to Bulletin No. 1135 . . . or call your Pyle-National Electrical distributor.

THE PYLE-NATIONAL CO.
1354 North Kostner Avenue
Chicago 51, Illinois

the air it was the plan of Piel to work with his small sales force, calling personally on set owners, readily identified in most cases by their aerials or from listings of sales obtained from dealers.

In this case the objective was to instruct owners in proper lighting of the room in which the set was installed. This procedure would sell only a limited amount of additional lighting and load, but it would get salesmen into the homes identified for above-average income, where there are always prospects of appliance sales.

The West Texas Utilities Company does not sell television. But, unlike most other Texas utility companies, it does offer and promote a complete line of household appliances at retail.

Light-conditioned homes

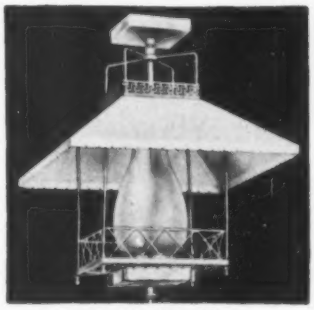
(*Continued from page* 41)

Brockan Electric Supply Company doing the wiring and making the fixture changes. The Lamplighter Shop provided the necessary additional lamps, and Calton Teatte furnished the equipment used in the automatic all-electric kitchen. During a four-day showing of this house, there were 1,320 visitors, which opened the way for the still greater public attendance at the eight-day opening of the Paver Park Estates home.

Of the total of 78 light conditioned homes completed in Florida, 66 have been built in Miami, 37 by Chasebrook, Inc., and 29 by the Arcola Housing Corp., but the ambitious plans of Paver Park Estates, in Sarasota with 100 or more such lighted homes projected, and the announcement by the Gill Construction Company that it will build 80 such homes in Fort Lauderdale, will give impetus to better home lighting in those two cities, also.

More than 3,500 persons inspected a light conditioned home built by Chasebrook, Inc., on the first day it was open to the public, while during a two weeks' demonstration there were 12,000 visitors. Lighting in this house was installed by B&W Electric Co., Miami. More than 8,000 visited a demonstration house built by the Arcola Housing Corp., during the two weeks it was open, with 1,500 on the first day. Industrial Electric Co., Miami, in-

269
DIFFERENT WAYS
TO MAKE MONEY
That's how many sales-building, Profit-Making Fixtures you'll discover in JAY'S
48-PAGE MULTI-COLORED
RESIDENTIAL CATALOG
IT'S FREE . . . Write for your copy NOW!



NO. 303

NO. 63

NO. 350

JAY
LIGHTING MFG. CO., INC.
23-29 QUINCY STREET
BROOKLYN 38, N. Y.
Sterling 9-2002

IT'S
ALL-WHITE
ABOLITE

• Cooler, cleaner lighting plus longer lamp life. That's what you can expect with the new ABOLITE "All-White" lifetime, porcelain enameled fixtures. The ventilating slots provide automatic air circulation, prevent dust from fogging lamp and reflector.

Ask your wholesaler for complete details.

ABOLITE Lighting DIVISION
THE JONES METAL PRODUCTS CO.
WEST LAFAYETTE, OHIO

There's Money To be Made
By Selling
ATLANTIC to the Trade

#901
Non Metallic
Connector

#523
Entrance Cap

ATLANTIC CONDUIT
FITTINGS CO.
BOSTON, MASS.

stalled the wiring and fixtures. Cornice lighting, recessed lighting, portable lamps and flood lighting were used.

Three light conditioned homes have been built in Daytona Beach by E. J. Widmer & Son. Two were opened for public inspection, with 2,810 viewers of one and 1,714 of the other. The Fred Newcomb Electric Company was the installer of wiring, fixtures, an all-electric kitchen and a fuel oil furnace with thermostat control.

Public appreciation of the modern electric home was illustrated at Fort Lauderdale, where the Gill Construction Co., on the first day of a public demonstration, sold a light conditioned and air conditioned home for $37,500, completely furnished. The Gill company planned a one-week showing, but the response was so great that the house was kept open a second week for a total attendance of 3,601.

Electrical work was done by the Pyle Electric Service Co., Fort Lauderdale, with Edison Electric furnishing supplementary portable lamps.

In a smaller community, Bradenton, with 14,000 all-year population, public attendance was only 500, but the demonstration lasted only four afternoons and evenings. Significantly, perhaps, the number of visitors was largest on the final day. The demonstration house was built by R. E. Sigmund. Electrical work was supervised by a leading manufacturer.

"Electrical contractors and fixture dealers," says Florida Power and Light, "are finding new sources of profit in the rapidly growing acceptance of the completely light conditioned home idea. Complete light conditioning means a vastly increased market for wiring, fixtures and bulbs."

But what about the reaction of home builders and home buyers who are the ones who have to be satisfied? A builder's reaction, that of Martin H. Paver, of Paver Park Estates, Sarasota, is this: "We naturally took special notice of the public reaction in this light conditioned home, and I would conservatively say that 99 per cent of the people inspecting the home were impressed with the lighting, and, when informed of the small additional cost to have a light conditioned home, stated that they wouldn't want to do without it."

Buyers of light conditioned homes seem to be equally enthusiastic. For example, here are excerpts from a letter written by Mrs. N. P. Yowell, Jr., who, with her husband, bought such a home in Daytona Beach:

"For once in my life I have enough wall plugs in all the rooms, and to me that is very important. It is really nice to have perfect lighting in the kitchen and in the bathroom. It is a pleasure instead of a chore to put make-up on now that we have the lights on each side of the mirror in the bathroom. The valance lighting gives a soft light which is relaxing to your eyes and it also makes the room look cozy. I am particularly fond of the two-way light fixture over my dinette. When the center light is on it makes the table look beautiful. The spot lights on the back of the house are very convenient. We have turned them on to sprinkle the back yard after dark and for many other things. The switch is in a grand place in case of prowlers, too. It is certainly a pleasure to live in a perfectly balanced lighted home."

Relighting a store

(*Continued from page* 39)

columns around the building.

An afterthought on the Loveman's remodeling: While we were on that job, we were doing an installation at a casket company. Our workmen at the latter place made a gang box out of a coffin crate on rubber-tired casters! This served as a portable gang box and refuse container—a big help because of the confined working conditions and long haul between working space and permanent storage.

Productive lighting

(*Continued from page* 36)

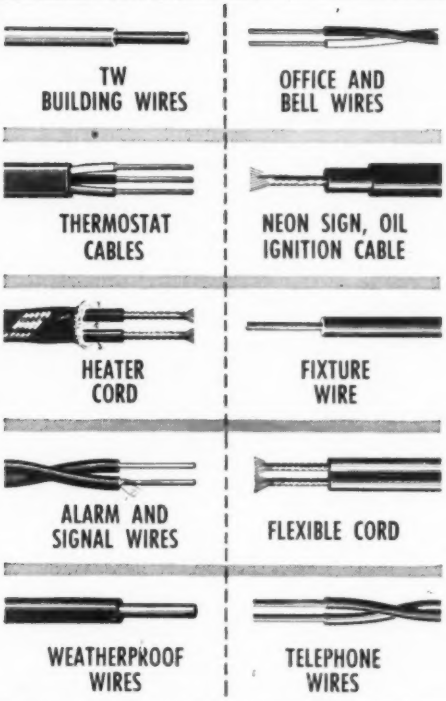
economics problem indicates the value of supplementary lighting in selling merchandise. Assume that a PAR-38 spotlamp is trained on a display of $1.50 neckties that are sold at a 30% mark-up. If the added brilliance sells only one more tie per week, the new lighting would show a profit. Experience tallied by market analysts indicates

Keep TABS on WIRING PERFORMANCE with-

CHESTER plasticord-plasticote WIRES & CABLES

Tested and
Approved
Beyond
Specification

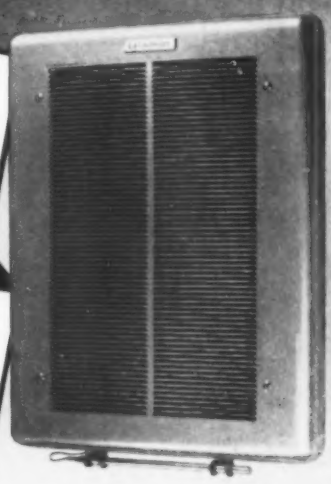
Chester ENGINEERED plastic insulation, laboratory and field tested to more than meet specifications, provides both easier working qualities and longer service life. These rugged plastic coatings offer maximum immunity to abrasion, weather, oil and most chemicals. Smooth and pliable, they pull through conduit easily.



"Chesty" HAS THE ANSWERS — Plasticord and Plasticote wires are available in standard constructions or custom built to specifications. For a practical solution to unusual insulated wiring problems, call or write.

CHESTER CABLE CORP.
CHESTER, NEW YORK

CUT INSTALLATION COSTS ADD TO YOUR PROFITS with



MODEL WA
Wall-type Down-flo Heater

ELECTROMODE All-Electric HEATERS

For HOME • OFFICE • FACTORY • FARM

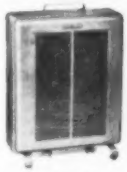
Capacities 1320 to 45,000 watts, in Wall, Portable and Suspension types.

- ▶ QUICK, EASY TO INSTALL
- ▶ MINIMUM of MAINTENANCE
- ▶ SATISFIED USERS
- ▶ MODERN DESIGNS
- ▶ 100% EFFICIENT
- ▶ COMPLETELY SAFE

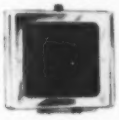
Sealed-in cast-aluminum heating element eliminates any danger of fire, shock or burn. Power cut-off safety switch prevents overheating.

- ▶ AUTOMATIC CONTROL

Built-in thermostat with adjustable range of 55° to 85° provides automatic room temperature control and economy of operation.



MODEL PA
Automatic Portable Heater



MODEL WJA
Wall-type Bathroom Heater

MODEL 14-10
Suspension-type Unit Heater

Electromode Unit Heaters in Suspension and Combination Portable and Suspension types solve hard-to-heat areas in the plant and isolated locations. Require no plumbing.

ELECTROMODE CORPORATION
45 CROUCH STREET, ROCHESTER 3, N. Y.

Dept. ES-103. Please send free literature on:
Electromode Heaters ☐ Domestic ☐ Industrial

Name .....

Address .....

City..... Zone..... State.....

SPERO "HB" ALUMINUM SHIELDS!!

. . . for the protection of GE R-52 and WESTINGHOUSE R-57 LAMPS.

Protection from moisture assures full lamp life. Supply the best . . . Spero H-B Shields!!

★ One piece heavy aluminum spinning affords greater heat dissipation.
★ Ventilated.
★ Two piece spring contact socket.
★ ½" and ¾" pipe mounting.
★ Wire guards available for bottom of units.

SPERO also makes "GUARANTEED" PORCELAIN ENAMEL REFLECTORS... FLOODLIGHTS... VAPOR-TIGHT UNITS... INSULATORS... SWITCHPLATES

THE SPERO ELECTRIC CORPORATION
14838 EUCLID AVE. • CLEVELAND 12, OHIO

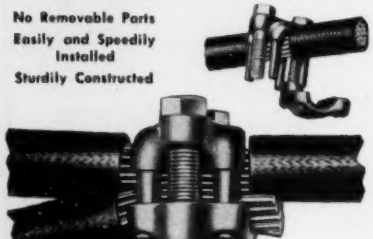
CLAMP AND LOCK YOUR CONNECTIONS { THE K&H WAY

This

SWIVEL U-BOLT CONNECTOR

is designed to do just that...

No Removable Parts
Easily and Speedily Installed
Sturdily Constructed



MEET ALL REQUIREMENTS

85% Copper Alloy • Ample Strength
High Conductivity • Unaffected by Vibration
Moisture Resistant
Sizes Up to 1,000,000 CM.
Approved by Engineers

Specify K&H for YOUR Next Job

For More Details, Sizes and Prices
WRITE FOR CATALOG 5LC

K&H KRUEGER & HUDEPOHL
Solderless Terminal Lugs and Connectors
VINE AT THIRD-ES • CINCINNATI 2, OHIO

that sales increases range from 2 to 5 times the original volume when such lighting is added.

As mentioned previously, relighting as a feature of store modernization usually results in increased sales. Merchants reporting their sales gains attribute to relighting a large and significant share. Their reports — average gains — are included in Table II.

Table II

Sales Gain From Re-Lighting

Kind of Store	Average Gain
Apparel Shops	21%
Automotive Stores	19%
Drug Stores	24%
Filling Stations	24%
Food Stores	20%
Furniture-Household-Radio Stores	27%
General Merchandise	22%
Hardware Stores	40%
Jewelry Stores	37%

If we credit only 10% sales gain to relighting and apply it to a hardware store doing an annual $75,000 business in, say, 1,000 square feet (medium-sized store), the following analysis applies:

1. Gross sales, $75,000
2. Area (20 x 50) 1,000 square feet
3. Sales per square foot, $75
4. Gross margin, 35%
5. Cost of low level or obsolete lighting system, $.20 per square foot per year
6. Cost of new lighting consisting of 96T12 (side shielded system) on $.02 power rate, $.41/sq. ft./yr., plus supplementary lighting added, $.41, for a total of $.82/sq. ft./yr.
7. Increase in lighting cost, $.82 — $.20 = $.62/sq. ft./yr.
8. Increase in sales, 10% of $75 = $7.50/sq. ft./yr.
9. Increase in gross profit equals $7.50 x 0.35 or $2.62/sq. ft/yr.
10. Assume 50% of gross profit available to pay for new lighting, $2.62 x 0.5 = $1.31/sq. ft./yr.
11. Net gain from new lighting, $1.31 — $.62 = $.69/sq. ft./yr. (As a buffer against the possibility of increased overhead incidental to a larger volume of business, such as the need for more sales help, only 50% of the increase in gross profit is used for item 10.)

Figures used in this analysis are averages and may vary substantially from those for a particular store. However, the procedure may be applied to any store, once basic cost data are known. The concept of lighting as a sales investment may be helpful in presenting a plan to a client and an aid in doing a complete job. Lighting planned for a store's specific needs pays it own way and usually provides a substantial return on the investment.

Manufacturer's representatives wanted for the States of Georgia, Florida, Alabama, Mississippi and Virginia to sell a nationally known line of Incandescent and Fluorescent Lighting Fixtures. We have many active accounts in these states and will extend complete cooperation to live-wire agents. State lines carried and complete resume.

REGENT SAVOY ELEC. MFG. CORP.
589 North Ave., New Rochelle, N. Y.

SALES REPRESENTATIVES: Manufacturer of competitive line of Fluorescent Fixtures reorganizing sales force, seeks representation in entire South and Southwestern territories. We are known in this territory and have many accounts. We are interested in warehousing, if available. Write Box 689, ELECTRICAL SOUTH, 806 Peachtree St., N. E., Atlanta 5, Ga.

TOP QUALITY ACE LIGHTING PRODUCTS

Quality Residential Lighting Fixtures
The Packaged Line
Ace Lighting Products Co.
914 Piedmont Ave., N.E.
Atlanta, Georgia

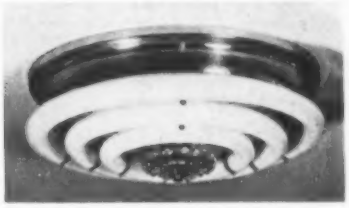
STA-BRITE SETS THE PACE ★ IN THE SOUTH ★
If it's fluorescent
MAKE IT SLIMLINE
STA-BRITE FLUORESCENT MFG. CO.
325 NW 22nd Lane, Miami, Fla.

IMMEDIATE DELIVERY FROM LARGE STOCKS OF ELECTRIC WIRE & CABLE
• All Sizes • Any Quantity
• Every Construction
UNIVERSAL WIRE & CABLE CO.
2678 Clybourn Ave. Chicago 14, Ill. Ph.: EAstgate 7-4777
1408 Jefferson Ave. Houston 3, Texas Ph.: FAirfax 9488
Cable Address: Uniwire

A COMPLETE LINE OF THE NATION'S FINEST

CIRCLINE FIXTURES

E94C - Chrome
E94W - White Enamel
(For 1-40W, 1-33W, 1-22W Lamps)



Represented in THE SOUTH by:

DON MARSDEN, P.O. Box 3071, Dilworth Station, Charlotte, N. Carolina

SMC QUALITY

REMEMBER SALEM MFG. CO.
ASSURES QUALITY—ECONOMY
SERVICE AND DEPENDABILITY

SALEM MANUFACTURING COMPANY

12 PROCTOR STREET **SALEM, MASSACHUSETTS**

New COOK Blower Ventilators

Backwardly-inclined impeller, non-overloading

WALL or KITCHEN EXHAUST — complete assembly is easily adjustable to wall thickness. In 7", 9" and 10" sizes. Model W.

ROOF VENTILATOR in 9", 10", 12" and 14" sizes. Single phase, 110 V. 2-speed; 220 V. 1-speed; or 3 phase, 1-speed, Model BV.

ROOF VENTILATOR in 7", 9" and 10" sizes. Base fits 6" and 8" pipe. Handsome interior grille with this and above model. Model R.

All models direct drive . . . damper optional.

COOK

Duct Fan

Exhaust Fan

Man Cooler

Roof Ventilator

Write for Catalog BV, Dept. ES, Loren Cook Co., Berea, Ohio.

The finishing touch to a first-class job

THE MARK of a good electrical job well done is a DIXISTEEL Galvanized Ground Rod.

Sharp-pointed for easy driving . . . hot-dip galvanized for positive protection against rust. 5/8" x 8' and other popular sizes carried in stock.

Write or telephone for prices.

FABRICATING DIVISION
Atlantic Steel Company
MAKERS OF DIXISTEEL SINCE 1901
ATLANTA, GEORGIA • EMERSON 3441

ROYAL

RIGHT CONTACT FOR ELECTRICAL SUPPLIES

with a tradition of DEPENDABILITY

"POWR-KORD"

HEAVY DUTY EXTENSIONS with *molded-on* attachments

. . . in 17 sizes and lengths from 10 to 100 feet of Type S or SJ rubber jacketed service cord. Every component part is UL listed. For POWER TOOLS, FLOOR POLISHERS, PROJECTORS, OUTDOOR LIGHTING LAWN EQUIPMENT, etc.

NEW ROYAL NO. 2 WIRE DEAL

1500 feet of 5 every - day wire types in a new assortment, plus all-steel display with built-in wire cutter.

ROYAL CORD SETS Attractively Packaged

EASY TO SELL!

Guaranteed by Good Housekeeping

ROYAL

THRU YOUR WHOLESALER

Quality WIRE • FUSES
CORD SETS • WIRING DEVICES
DECORATIVE CHRISTMAS LIGHTING

ROYAL ELECTRIC COMPANY, Inc.
Pawtucket • Rhode Island

Represented by Fulwiler & Chapman, Atlanta-Greensboro-New Orleans

ADVERTISER'S INDEX

A

Abolite Lighting Division, Jones Metals Products Co. 108
Abrams Lighting 110
Accurate Mfg. Co. . . . . *
Ace Lighting Company . . . 110
Adam Electric Co., Frank . . 19
Advance Transformer Co. . . 29
Advertising Council 16
Akerman, J. H. 109
All-Steel Equipment, Inc. . . . 1
Allis-Chalmers Mfg. Co. . . . *
American Metal Moulding Co. *
American Red Cross 16
American Steel & Wire Div., U. S. Steel Co. 22, 23
American Telephone & Telegraph Co. 73
Anderson Brass Works, Inc. . *
Anderson Co., Geo. E. 13
Andrews & Co., A. B. 87
Arro Expansion Bolt Co. . . . 98
Arnold, Glenn 20, 26
Atlantic Conduit Fittings Co. 108
Atlantic Steel Co. 111
Atlas Electric Products Co. . . 92
Austin Sales 109

B

B & C Metal Stamping Co. . . . 89
Bagby Co., S. L. 65, 102
Bailey, T. H., Jr. 21, 55
Beaven, W. H. 6
Benjamin Electric Mfg. Co. . . 71
Berry Co., W. H. 94
Beyer, N. T. 105
Biglin Co., Inc., H. C. . . . 28, 96
Blackhawk Industries . . . . . *
Boyd, Sam G. 114
Briegel, Method Tool Co. . . . 67
Bronsvel, Robert C. 106
Brown, Clark E. 97
Buffalo Forge Co. 95
Bulldog Elec. Products Co. . . 12
Bullivant, F. J. 114
Burndy Engineering Co. 24
Burrus & Matthews Front Cover, 32, 89, 90

C

Calverley, W. R. 24
Capy, Phil L. 6
Carey Mfg. Co., Philip 8
Cason, William . . . Second Cover
Cavalier Corp. 97
Certified Ballast Manufacturers 31
Certified Equipment Mfrs. (Ballasts) 31
Chase-Shawmut Company . . 94
Chester Cable Corp. 109
Circle F Manufacturing Co. . *
City Sales, Inc. 85
Clark Controller Company . 49, 50
Classified Ads 110
Colcock, Hutson 33
Cole, J. H. 114
Columbia Cable & Electric Corp. . . . . *
Columbia-Geneva Steel Division 22, 23
Continental Electric Equip. Co. . . . . *
Cook Company, Loren 111
Cornish Wire Co. . . . . *
Craig-Owen Co. 109
Crenshaw, William . Front Cover
Crescent Insulated Wire & Cable Co. 32
Crevasse, J. N. 85
Crouse-Hinds Co. 78, 79

D

Dawes, Edgar E. 20, 32
Day-Brite Lighting, Inc. 85
Dongan Electric Mfg. Co. . . . 102
Doxsee, Leigh A. 100
Drane, Becker . . . Front Cover
Dreyfuss' Sons, Jules J. . . . 101
Duncan Electric Mfg. Co. . . . *
Dunlop & Dunlop 102

E

Eastern Fixtures Co. 65
Elder & Co., John W. 107
Electrical Fittings Corp. . . . *
Electrical South . . . . . *
Electro Compound Company . 114
Electromode Corp. 109

F

Federal Electric Prod. Co., Inc. . . . . *
Ferguson, Lynn W. . Second Cover
Fielder Co., The Tom . 55, 87, 105
Finney, Collin 21
Fishburne, R. W. 32, 89
Fisher-Pierce Company 87
Fleming & Co. 100
Forester Equip. Co. 114
Fullman Mfg. Co. 100
Fulwiler & Chapman, 100, 112, 114
Fussell, Otis N. 108

G

Gaines & Co., John G. 102
Gaumer, John 87
Gedney Electric Co. . . . . *
General Cable Corp. . . . . *
General Electric Co., Conduit Standard — Construction Materials Div. . . . Back Cover
General Electric Co., Conduit Underfloor & Construction Materials Div. . . . . *
General Electric Co. (Lamp Div.) 61
General Electric Co., Wire & Cable—Construction Materials Div. . . . . *
General Electric Co., Wiring Devices—Construction Materials Div. . . . . *
General Switch Corp. 63
Gerstenberg, E. A. 19
Gibson Manufacturing Company . . . . . Front Cover
Glatthar Lighting Co., The . . 88
Glenn & Larson 21, 24
Glidden Eng. & Equip. . . . 63, 110
Graybar Electric Co. . . . . *
Green, George . . . . Second Cover
Gregory-Salisbury Co. . . . 75, 102
Guokas, Henry L. 33, 109
Guth Company, Edwin F. . . . 75

H

Hagen, Gene 63
Hancock Co., John 55
Harris-Hanson Co. 87, 102
Helwig Company 114
Henderson, L. V. 86
Hill, Ken 21, 102
Hinson, Walter M. 89
Hogan, Jr., Paul, Second Cover, 32, 85
Holiman Co., W. E. 25
Holmyard, Hal 104
Hope Electrical Products Co. *
Hopper & McCoy . . . 1, 33, 98, 108
Howe & Co., W. F. 32
Hubbard & Co. . . . . *
Huemer, Walter J. 21

J

Jay Lighting Mfg. Co., Inc. . . 107
Jones, E. L. 105
Jones, J. W. 86
Jones Metal Products 108

K

Kaiser Aluminum & Chemical Corp. 10, 11
Kearney, James R. Corp. 18
Keener, Frank E. 65
Keller, W. J. 19
Kerrigan Iron Works, Inc. . . 77
Killark Elec. Co. 13
Koeln & Co., Geo. R. . . . 102, 107
Krueger & Hudepohl 110
Kuhlman Electric Co. 104

L

Lamb Co., A. V. 109
Landers Co., L. Morris, 25, 29, 97, 103
Lassiter, W. H., Jr. . 55, 107, 109
Lau Blower Company, The . . 59
Ledford, L. O. 102
Leviton Mfg. Co. 47
Light & Power Utilities Corp. 114
Lithonia Lighting Products Co. 81

ADVERTISER'S INDEX

Lloyd Factory Sales Agents, J. A. 59, 63, 108
Lombardi, Gene 106
Loyd, Inc., Ernest T. 13
Lumpkin, Paul 20

M

M & W Electric Mfg. Co., Inc. ..... •
Macon Co., H. L. 87, 104
Marcus Transformer Company, Inc. 103
Matthew, Jim 110
McCain, J. E. 114
McCourt, Leo T. 13
McCreary, B. L. 19, 107
McNeill, B. E. 114
McPherson, Frank C. 55
Meier Electric & Machine Co., Inc. 105
Michler, P. A. 19
Miller Company, The 105
Mitchell Manufacturing Co. ... •
Morris, Lynn H. 108
Multi Electric Mfg. Company 86
Munding Elec. Sales Agency, 85, 104
Murray Company of Texas ... 28
Myrick, C. C., Jr. 106, 109

N

National Electric Products Corp. 14, 15
Nelson, Walter F. ... Front Cover
North American Electric Lamp Co. ..... •
North, J. Scoby 98
Noser, J. A. 55

O

O Z Electrical Mfg. Co., Inc. •
Okonite Co. ..... •
Orlick, A. M. 49

P

Paranite Wire & Cable Division, Essex Wire Corporation ..... •
Peabody Brothers 93
Penn-Union Electric Corp. ... •
Peterson & Lowe 98
Pickard, R. M. 110
Picker, F. C. 19
Plymouth Rubber Company, Inc. 114
Prag, Elmer 96
Prescolite Mfg. Co. 55
Progress Manufacturing Co. 27
Pryne & Company, Inc. ..... •
Pyle-National Co., The 107
Pyramid Instrument Corp. ... 57

R

RLM Standards Institute ... 2
Redmann, S. M. 107
Reed, Inc., Lyman C. 87
Reed Unit Fans, Inc. 113
Regent-Savoy Electrical Mfg. Corp. 110
Revere Electric Mfg. Co. ... 102
Richey, E. B. ... Second Cover
Ridgeway, J. T. 89
Robertson, Inc., Elgin B. ... 24
Robinson, C. E. ... Second Cover
Rodale Manufacturing Co., Inc. ..... •
Roes, H. A., & Co. 85
Rome Cable Corp. 83
Rosebrough, Lee B. ... 19, 104
Rose Equipment Co., W. L. ... 24
Rottman, O. H. 19
Royal Electric Company ... 112
Ruby Phillite Corp. 17
Ruff & Cannon 85
Russell & Stoll Co., Inc. ..... •

S

Salem Mfg. Company 111
Sangamo Electric Company •
Schisler, D. A. ... Second Cover
Schneider, David D. 25
Shaw-Hardy Co. 24
Sherrill, Paul 86
Simmer, F. H. 100
Simplex Wire & Cable Co. .6, 108
Smithcraft Lighting Division 21
Snoots, Wayne ..... .96, 102
Sommerlath & Assoc., E. G., Jr. 109
Southern Agencies 99
Southern Electric Corp. ..... •
Southland Sales Agents ..33, 87
Southwest Sales & Service ... 25
Southwire Company 4
Spero Electric Corporation, The 110
Sperti Faraday, Inc. 104
Square D Co. ..... Third Cover
Sta-Brite Fluorescent Mfg. Co. 110
Steel City Electric Company. 20
Stockdale Co., S. C. 109
Stonco Electric Products Company 106
Stone, Carson 114
Strong, Carl 89
Sullivan, W. E., Jr. 90
Sunwarm ..... •
Swiveller Company, Inc. 26

T

Tennessee Coal & Iron Div. U. S. Steel Company ... 22, 23
Thompson Co., Walter E. ... 24
Thornton, E. B. 21
Thorsell, Carl W. ... 33, 55, 105
Tindall, Norman E., ... Second Cover
Tomic Sales and Engineering Co. 33
Triangle Conduit & Cable Co., Inc. ..... •
Trimble Co., Inc., C. R. 113
Trumbull Division, General Electric Co. ..... •
Turner, Will 27

U

Union Insulating Company .. 90
Unistrut Products Co. ..... •
United States Rubber Co. (Mechanical Goods - Uskon Div.) 69
United States Rubber Co. (Wire & Cable Div.) 30
United States Steel Export Company 22, 23
United States Steel, Tennessee Coal & Iron Div. ... 22, 23
Universal Wire & Cable Co. 110

V

Victor Insulators, Inc. 25
Victor Ventilator Co. 8

W

Wadsworth Electric Mfg. Co., Inc. ..... •
Wagner Malleable Products Co. ..... •
Wakefield Brass Co., The, F. W. ... Second Cover
Walter, F. P. ... Second Cover
Ward Co., Chas. L. 24
Ward, L. R. 87
Watts, Sam J. 108
Wellbacher, A. J. 63
Wells, Gordon 85
Wesix, Inc. 106
Western Insulated Wire 99
Westinghouse Electric Corp. •
Westinghouse Electric Corp. (Lamp Division) ..... •
Westinghouse Electric Corp. (Transformers) ..... •
Wheeler Reflector Co. 93
White, C. O. 114
Whitman, Marshall L., Co., Second Cover, 93
Wildeman, Walter W. 77
Williams Products Co., H. E. •
Winkler, B. L. 19
Wiremold Company, The ... 96
Woodyard, Charles L. ... 55, 102
Wright, Earl E. 49, 50

Y

Young Engine Corporation .. •
Youngstown Sheet & Tube ... 91

HOME REMODELING

... today's opportunity for attic fan sales

Reed PACKAGED ATTIC FANS

... are a breeze to install, particularly in homes being remodeled, because they fit right over rafters of existing construction, require only a rough cut through ceiling to take automatic, silent shutter. Stock models for any installation requirement: 24, 30, 36, 36 narrow, 42 and 48 inch sizes. Fan main shaft bearings and ball-bearing motors permanently lubricated. Famous Reed quality throughout — quiet, long-lasting. Write for complete details.

Reed

Reed Unit-Fans, Inc.,
1001 Saint Charles Ave.,
New Orleans 8, La.

Send me complete information about Reed Packaged Attic Fans.

My Name _____

Company _____

Address _____

City _____ State _____

E-10

3 WAYS BETTER!

PLYMOUTH PLASTIC *Electrical* TAPE

Sold only Through Recognized Wholesalers

Tougher!

Faster!

Neater!

PLYMOUTH RUBBER COMPANY, INC.

Manufacturers of SLIPKNOT — The World's Largest Selling Friction Tape

CANTON, MASSACHUSETTS

---

for the **LONG PULL** use

Y-ER EAS

Wire Pulling Lubricant

Only Y-ER EAS has all these features

- Creamy, non-corrosive lubricant. Never greasy or messy.
- Prevents sticking or setting. Specially helpful on saddles and turns.
- Does not run back on cables.
- Never harmful to hands or clothing.
- Permanently non-harmful to cables or conduit.

Write for descriptive booklet

GIVES THE SLIP TO—
Lead, Rubber, Braid or Synthetic Covered Cables

Improved Y-ER EAS tested and approved by the Underwriters' Laboratories, Inc.

AT ALL LEADING ELECTRICAL SUPPLY HOUSES

ELECTRO COMPOUND CO.

3820 W. 150th Street ● Cleveland 11, Ohio

NATURLITE

Reg. U. S. Pat. Off.

Fluorescent Fixtures

For every commercial and industrial use
Quality High—Cost Low
New 1954—48 page Catalog
is now ready—write for your copy.

LIGHT & POWER UTILITIES CORPORATION

1035 Firestone Blvd., Memphis, Tenn., Dept. E

Sold Thru Wholesalers Only

CONTOURED BRUSHES *for*

- IMPROVED MOTOR PERFORMANCE
- FEWER, FASTER BRUSH CHANGES
- LESS MOTOR "DOWN" TIME

HELWIG CO. (HELWIG SPEER) CARBON PRODUCTS

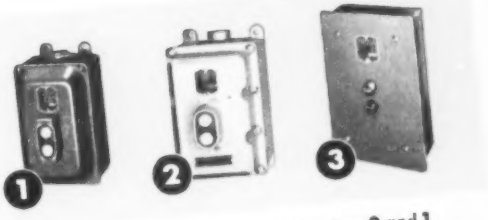
2536 N. 30th St., Milw. 10, Wis.

for DEPENDABLE PERFORMANCE!

Square D Manual Motor Starters

More than a million Square D Manual Starters have been put to work during the past twenty years on small machine tools, punch presses, fans, blowers, grinders, buffers, pumps, compressors, and portable electric tools. They've been selected for a lot of good reasons —among them:

Dependability. They're designed to "take it." **Operator Safety.** Cover and "STOP" button can be padlocked. **Convenience.** They're easy to install. **Overload Protection.** Melting alloy overload relays of unit construction provide close, accurate motor protection—"trip-free" mechanism prevents holding motor circuit closed against overload. **Parts Kits** simplify and speed up normal maintenance.



Square D offers manual starters in NEMA sizes **0** and **1** for non-reversing, reversing, or two-speed applications. A variety of enclosures is available. Shown above **1** Water and Dust Tight **2** Hazardous Locations **3** Flush Mounting.

Write for Bulletin 2510W. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

1903 • 50 YEARS OF DESIGN LEADERSHIP • 1953

The smooth, blue interior finish of the new G-E WHITE rigid steel conduit makes fishing and wire-pulling easy.

Easy fishing and wire-pulling with new G-E WHITE rigid conduit

The new G-E WHITE rigid steel conduit is lined with a new corrosion-resistant coating, containing a special antifriction agent. This smooth, blue interior surface lets wires slide easily, and cuts fishing and wire-pulling time.

New G-E WHITE also offers easy bending and improved corrosion protection because it is zinc galvanized by the "metallizing" process. This process bonds a uniform coating of pure zinc to the entire outside surface of the conduit, including threads.

New G-E WHITE metallized conduit, with its completely new interior and exterior finishes, is listed by Underwriters' Laboratories, Inc. Ask your distributor about it, or write Section C35A-1024, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

You can put your confidence in—

GENERAL ELECTRIC